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Gender Quotas and The Representation of Women: Empowerment, Decision-making, and Public Policy

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ABSTRACT

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Over the past two decades governments worldwide have begun to take action to correct gender disparity in representative bodies, resulting in drastic increases in women's numeric representation. It is unclear, however, how these increases influence legislative behavior. This research contributes to our understanding of how increases in women's numeric representation influences substantive representation of women. I collected an original dataset to examine this relationship across twenty-three subnational Argentine legislatures over eighteen years. This project represents one of the first empirical efforts to examine women's substantive representation over a large number of legislatures over a long duration of time.

A key piece of the puzzle is to understand if female exhibit distinct preferences from their male colleagues. The second chapter of the dissertation uses a new data set of ideal point estimates recovered from cosponsorship data to examine gender differences in legislative preferences. I find strong evidence to suggest women display different legislative preferences than their male colleagues. Chapter three investigates how increases in women's numeric representation influence women's legislative behavior. Previous research suggests that increasing women's numeric representation should enhance the probability that women work together to pursue common legislative agendas. Yet, I demonstrate that as the percentage of women in the chamber increases, women are increasingly less likely to work together. I argue that this unexpected finding can be

explained by considering how institutions shape women's legislative incentives. In chapter four, I develop theoretical expectations about the conditions under which increases in the proportion of female legislators, in combination with institutional arrangements, will foster or stifle women's opportunities and incentives to represent women's interests. The chapter provides strong empirical support for the hypothesis that women behave differently conditional on institutional incentives. These findings imply that understanding institutions is key to understanding how and when female representatives will stand for women. Taken together, this dissertation makes an important contribution to our understanding of how changes in the proportion of female legislators and differences in institutional contexts shape women's legislative behavior.

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implications of my research for politics and gender and comparative politics more generally, and provided a fresh perspective on my work. Over the course of this process, she has become both a mentor and a friend.

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Chapter 1

Introduction

Women are underrepresented in virtually all of the world's legislatures. In the early nineties, there was a widespread call for national governments to take action in correcting gender disparity at all levels of political representation. To date, constitutional, electoral, or political party gender quotas have been adopted in 98 countries.[1] While quotas have been demonstrated under certain conditions to increase the numerical representation of women, and are designed to achieve equality in legislative power and decision-making, it is unclear if electing more women to legislative office is sufficient to influence policymaking. The extant literature has contributed to an understanding of how quota laws in combination with electoral laws affect the election of women legislators. What is less understood is the substantive impact of increased numbers of women in the legislature resulting from the use of gender quotas. In this dissertation I examine this relationship. It is impossible however, to understand how changes in women's numeric representation influence women's legislative behavior without considering how institutional contexts shape women's legislative behavior. As such, this dissertation develops a theoretical explanation about changes in women's numeric representation influences women's legislative behavior conditional on institutional incentives.

The Argentine Provincial Legislatures: An Ideal Setting to Study Women's Representation

[1] A gender quota is an electoral law that mandates the inclusion of women on the electoral ballot or in some cases, reserves seats in the legislative chamber.

This research represents one of the first empirical efforts to examine women's legislative behavior across a large number of chambers over a long duration of time. Previous research that addresses this question typically examines case studies or only a small number of legislative chambers. However, to disentangle how the adoption of gender quotas, changes in the proportion of women in the legislative chamber, and different legislative institutions each independently impact women's legislative behavior it is necessary to examine this question over a large number of legislative chambers—which vary on each of these three dimensions—over a significant duration of time. I have therefore chosen to study women's legislative behavior at the subnational level in Argentina. The Argentine setting allows me to evaluate women's legislative behavior over a long temporal domain (18 years) for a large number of legislative chambers, which vary on three important dimensions. First, the legislative chambers vary in their adoption of a gender quota law. Second, they vary with respect to proportion of women in the legislature. Finally, the different legislative chambers each use different types of electoral systems. To illustrate this point, I will discuss the variation of each of these dimensions in detail.

Widespread Adoption of Gender Quotas

First, the widespread adoption of gender quotas makes the Argentine provinces ideal for studying women's legislative behavior. As the first country to adopt legislative gender quotas (in 1993 at the provincial level), Argentina is the only context in the world that offers a long time line for such quotas (over 15 years) and a large degree of variation in the initiation and success of quotas.

Table 1.1: Gender Quota Laws in the Argentine Provinces

District	Uni/Bicameral	Gender Quota Law	Sanction Date	Election Year Implemented	Placement Mandate	% Women
Federal District	Unicameral	Constitution, Article 36	10/1/96	1996	Yes	30%
Buenos Aires[3]	Bicameral	Law 11.733	11/16/95	1997	Yes	30%
		Decree 439 (Enforcing Placement Mandate)	3/8/97	1997	Yes	30%
Catamarca[1]	Bicameral	Law 4.916	7/10/97	1999	Yes	30%
Chaco	Unicameral	Law 3.858	5/5/93	1993	Yes	30%
Chubut	Unicameral	Law National 24.012 & Decree 137/95 (Decree mandates compliance with national gender quota law)	2/17/95	1995	Yes	30%
Cordoba	Unicameral	Law 8.365	3/3/94	1995	No	30%
		Law 8.901 (Placement Mandate)	12/12/00	2001	Yes	50%
Corrientes	Bicameral	Law 4.673	11/25/92	1993	No	30%
		Decree 1.332 (Placement Mandate)	6/11/03	2003	Yes	30%
Entre Rios	Bicameral	--	--	--	--	--
Formosa[2]	Unicameral	Law 1.155	7/26/95	1997	Yes	33%
Jujuy	Unicameral	Law 5.668	11/25/10	2011	Yes	33%
La Pampa	Unicameral	Law 1.593, Article 18	12/1/94	1995	Yes	30%
La Rioja	Unicameral	Law 5.705	5/7/92	1993	Yes	30%
Mendoza[3]	Bicameral	Law 5.888	8/6/92	1993	Yes	30%
		Law 6.831 (Stronger Language for Placement Mandate)	10/10/00	2001	Yes	30%
		Decree 1.641(New Language for Placement Mandate)	8/23/01	2001	Yes	30%
Misiones	Unicameral	Law 3.011	4/28/93	1993	Yes	30%
		Law 4.080 (Voided Law 3.011; Same Language)	7/30/04	2005	Yes	30%
Neuquén	Unicameral	Law 2.161	3/8/96	1997	Yes	30%
Rio Negro	Unicameral	Law 2.642	6/17/93	1993	No	33%
		Law 3.717 (Placement Mandate)	12/17/02	2003	Yes	50%
Salta[1]	Bicameral	Law 6.782	12/29/94	1995	Yes	30%
		Law 7.008 (Voided Law 6.782; Same Language)	11/24/98	1999	Yes	30%
San Luis	Bicameral	Law 5.105	3/31/97	1997	Yes	30%
		Law XI-0346-2004 (5542*R) (Voided Law 5.105)	7/16/03	2003	Yes	30%
San Juan[1]	Unicameral	Law 6.515	10/13/94	1995	No	30%
Santa Cruz	Unicameral	Law 2.302	10/29/92	1993	Yes	30%
Santa Fe[1]	Bicameral	Law 10.802	5/7/92	1993	Yes	33%
Santiago Del Estero	Unicameral	Law 6.509	9/5/00	2001	Yes	50%
Tierra Del Fuego	Unicameral	Law 408	7/2/98	1999	Yes	30%
Tucuman	Unicameral	Law 6.592	9/8/94	1995	No	30%
		Decree 269/14 (Placement Mandate)	2/18/02	2003	Yes	30%

1 The quota law is not applicable to the upper chamber because representatives are elected in single member districts.
2 The quota law was adopted before the 1995 election, but the law stipulated that parties must comply beginning in the 1997 election.
3 Each of these provinces initially adopted gender quotas with vague placement mandate language (similar to many of the provinces) and later adopted more specific placement mandate language.

Table 1.1 details the adoption of gender quota laws in the Argentine provinces. Gender quotas were first adopted in Argentina at the national level. After the adoption of quotas the national level, quota adoption spread rapidly across the provincial legislatures in Argentina. The adoption of quotas was staggered across the 1990s, with eight legislative chambers implementing quotas for the first time in the 1993 legislative elections. In the following legislative election two years later, an additional six legislative chambers implemented quotas. Then in 1997 five additional chambers implemented quotas, followed by an additional three chambers in the 1999 legislative election. By the end of the 1990s, the vast majority of the legislative chambers in Argentina adopted a gender quota of at least 30%. In the following decade three of these chambers (Córdoba House [2001], Córdoba Senate [2001], and Río Negro [2003]) increased their legislative quota to 50% and Santiago del Estero implemented its first legislative quota (2003), also at 50%. As a result, most of the chambers in my sample have a small proportion of women in the legislature prior to quota adoption and a sizeable proportion of women for several consecutive legislative sessions after the adoption of quotas.

Still, there are a few exceptions. For the past decade numerous debates have ensued regarding the potential adoption of gender quota laws in Jujuy and Entre Ríos. Until recently, quota advocates have not had success in these two provinces. Indeed, neither of these provinces used gender quotas during the election years included in my analysis. Recently, however, after years of persistence from quota advocates, a 30% gender quota was adopted in Jujuy on November 25, 2010. It will be implemented for the first time in the October 2011 election. As a result, to date, all but one Argentine

province (Entre Ríos) has adopted a gender quota law (or implements the national gender quota law as in the cases of Chubut and the Federal District). Additionally, multiple upper level chambers do no use gender quotas because they are not compatible with the single member district electoral systems used to elect senators in some districts (i.e., Catamarca Senate, Salta Senate, San Luis Senate, and Santa Fe Senate). Despite these few cases, the widespread adoption of gender quotas in the Argentine provincial legislatures makes the sub-national setting in Argentina an excellent place to examine how changes in women's numeric representation influences women's legislative behavior.

Variation in Women's Numeric Representation

Second, despite the near ubiquitous adoption of gender quotas in the Argentine provincial legislatures, there is still significant variation in the proportion of female legislators represented in each chamber. This variation in the actual proportion of female legislators is necessary to address the question of how changes in women's numeric representation shapes women's legislative behavior independent from the adoption of gender quotas. Increases in women's numeric representation in Argentina can largely be attributed to the adoption of gender quotas, which results in nice temporal variation in women's numeric representation within individual provinces. Is important however, to note that the adoption of gender quotas did not produce the same outcomes in each legislative chamber, thus resulting in variation across provinces. In 1992, the first year of my sample women held on average less than 10% of seats in provincial legislative chambers. During this time women did not occupy a single legislative seat in some

provinces (e.g., Corrientes Lower Chamber, Cordoba Upper Chamber, and both Chambers in Entre Ríos), while other provinces elected a significant percentage of female representatives prior to the adoption of a gender quota (about 20% in Formosa and 33% in Tierra del Fuego). This proportion increased drastically over the course of the next ten years. As I mentioned above, throughout the course of the 1990's the majority of the chambers in Argentina adopted a gender quota law. Yet, there was significant variation in the success of the gender quotas. The wide variety in the representation of women across these systems is due to a large variety of electoral rules as well as the existence of provinces where gender quotas were never implemented (or implemented later than in other provinces). The three most important electoral rules influencing the success of gender quotas are the use of placement mandates, variation in legislative election cycles, and variation in district sizes. The remainder of this section will discuss how these factors, in combination with gender quotas, influenced women's numeric representation.

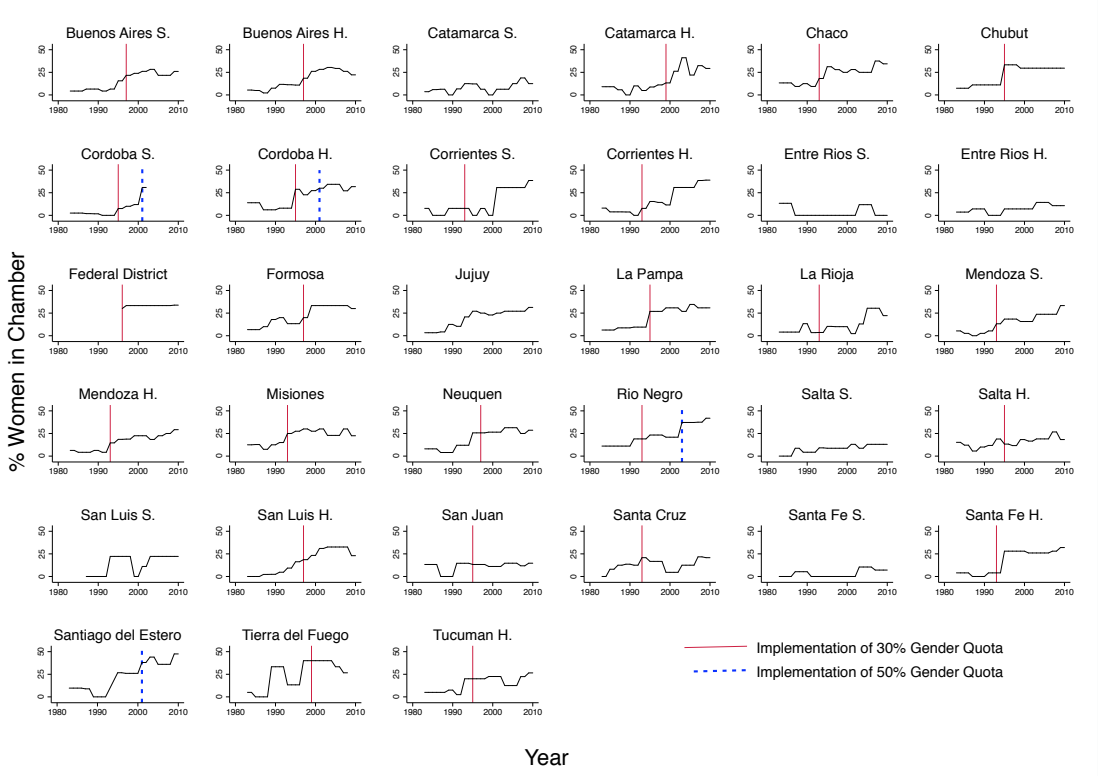
Placement Mandates: There is variation with respect to the adoption and implementation of placement mandates. While most provinces adopted some language requiring political parties to place women in positions on the list where they have a possibility of being elected (i.e., placement mandates), some provinces omitted placemen mandate language. In every province except for San Juan, a placement mandate was eventually implemented. In the case of Corrientes, for example, a gender quota law without a placement mandate was adopted in 1993. The adoption of this law did not result in an increase in women's numeric representation because women were not being placed in positions on the ballot where they had to possibility of being elected. In 2003, the governor issued a decree mandating that the political parties comply with a placement

mandate and providing clarifying language for how the placement mandate should be implemented. After the placement mandate was implemented women have always occupied at least 30% of the seats in the lower house in Corrientes.

Legislative Election Cycles: Another source of variation in women's numeric representation in the Argentine legislatures is the provincial level legislative election cycles. Some provinces hold elections once every four years and renew every seat in the legislative chamber in one election (total renovation) and others hold elections every two years and only renew half of the legislative chamber in each election (partial renovation). When total renovation is combined with gender quotas, these elections typically result in an immediate increase in women's representation. Whereas partial renovation only cause a moderate increase in women's representation in the first election (typically resulting in about 15% women in the chamber) and then becomes fully effective in the second election in which the gender quota is employed. This is clearly illustrated by comparing the legislative elections in Santa Fe and Chaco. Santa Fe use total renovation; therefore, when gender quotas were first implemented in the 1995 election, the proportion of women in the legislature immediately rose from 4% to 28%. By comparison, Chaco uses partial renovation. When gender quotas were first implemented in Chaco in the 1993 election, the quotas initially resulted in an increase to 18% women in the legislative chamber. After the 1995 election, when the second half of the chamber was renewed, women's numeric representation rose to 31.2%. It is clear from Figure 1.1 that gender quotas almost always result in an increase in women's numeric representation. In some cases, however, the adoption of legislative gender quotas results in a big increase, where as other legislatures only incur small benefits. Further, the figure illustrates that the

increases in the proportion of female legislators are not always immediate; some chambers take multiple legislative cycles before the quota is fully realized.

Figure 1.1: Percentage of Female Legislators by Legislative Chamber



In 2002 Cordoba moved from a bicameral legislature to a unicameral legislature.

District Magnitude: Finally, provinces vary significantly in district sizes (i.e., district magnitudes). Previous research has demonstrated that gender quotas are more effective when they are combined with large district magnitudes (Jones 2009). For this reason, gender quotas typically result in larger increases in provinces with large district magnitudes than in districts with small or medium districts. For example, in systems with large district magnitudes, such as the Federal District (magnitude of 30 and 60) properly implemented gender quotas result in a significant percentage of female legislators. In the

case of the Federal district, women consistently occupy 30% of the legislative seats. Other electoral systems are far less compatible with gender quotas. Electoral systems with small district magnitudes typically do not result in large proportions of female legislators. For example, in the lower chamber in Salta the district size ranges from 1 to 10. The gender quota successfully augments the proportion of women elected in the large districts, however few women are elected in the smaller districts. As a result, the average percentage of seats occupied by women in the lower chamber in Salta rarely rises above 20%, despite the use of a 30% gender quota. It is evident from this comparison that the wide variety of electoral rules used in the Argentine legislatures also contributes to the variation in women's numeric representation.

Every province that adopted legislative gender quotas has had a different experience with the implementation and success of quotas, thus resulting in significant variation in women's numeric representation across the Argentine legislatures, despite the widespread adoption of gender quotas. This significant variation in the proportion of women in legislative chambers is essential to understand how increases in the proportion of female legislators influences women's legislative behavior. Although it took several years for most provinces to adopt and adjust the gender quota laws to be compatible with the electoral system and ensure proper implementation, as of today, most legislative chambers have implemented successful gender quota legislation. In 2009, the last year of my sample, the vast majority of the chambers in Argentina had about 30% or more women in the chamber.

Variation in Electoral Institutions

The third reason why the Argentine legislatures are an ideal setting for studying women's legislative behavior is the significant variation in the electoral institutions used in each of these legislatures. This is important for the reasons explained above (i.e., gender quotas are more compatible with some electoral systems than others), but also, it is important because different electoral systems create different legislative incentives, which will likely influence women's legislative behavior. The wide variety of electoral systems enables me to examine the independent influence of electoral incentives on women's legislative behavior.

If we want to understand women's legislative behavior, it is important to examine how women behave under different institutional settings. For example, some electoral systems are known to create strong party-centered incentives (Carey and Shugart 1995), which I argue will discourage women from exhibiting behavior that differs from their male copartisans. Whereas, other electoral systems are known to foster personalizing incentives (Shugart, Valdini and Suominen 2005), which I argue may encourage women do distinguish themselves from male colleagues. The Argentine legislatures are an ideal setting to examine how institutions influence women's legislative behavior because each legislative chamber is unique. Some legislative chambers elect representatives from at-large districts, single member districts, or multi-member districts. Multiple legislative chambers in my sample employ mixed-member districts in which some members are elected from at-large districts and the remaining members are elected from single member or multi-member districts. Equally important, the type of electoral system does not vary systematically with the level of development in a given province. It is often the

case that more developed and urban regions have higher district magnitudes and less developed and rural regions have smaller district magnitudes. However in the case of the Argentine provinces the most developed district (i.e., the Federal District) and some of the least developed districts (i.e., Chaco, Jujuy, and Misiones) all elect legislators from districts with very large magnitudes; the magnitudes of these districts are: 60 (Federal District from 1996 to 2005); 30 (Federal District from 2006 to 2009); 16 (Chaco); 24 (Jujuy); and 20 (Misiones). This variation in electoral systems, combined with both cross-sectional and temporal variation in the proportion of female legislators, provides an excellent opportunity to compare how electoral incentives shape women's legislative behavior.

Taken together, these three key sources of variation –variation in the adoption of gender quotas, variation in the proportion of women represented in the legislative chambers, and variation in electoral systems—make the Argentine legislatures an excellent place to examine women's legislative behavior. This is the only setting where one can examine the effects of gender quotas on substantive representation using a large number of observations with different electoral systems while making controlled comparisons holding many contextual, historical, and cultural variables constant, which is impossible in cross-national analyses.

Cosponsorship Behavior

To carry out this research I collected an original data set containing information on women's political involvement and activities. This dissertation is unique in that it focuses exclusively on cosponsorship activity. Previous research on women's legislative

behavior has not examined women's cosponsorship patterns.[2] This dissertation addresses this gap in the literature by examining 1) how women's cosponsorship differs from their male colleagues, 2) how the adoption of gender quotas and changes in women's numeric representation influences women's cosponsorship behavior and 3) how different institutional incentives shape women's cosponsorship behavior.

Cosponsorship activity is important for a number of reasons. First, cosponsorship activity can provide information about legislators' preferences relative to their colleagues. Second, cosponsoring legislation is a way for legislators to form networks with likeminded colleagues, and galvanizing support for shared interests. Third, cosponsorship activity can be a powerful tool for building a legislative reputation. These three concepts are interrelated, and should not be thought of in complete isolation from the others. It is important, however, to recognize each of the distinct attributes.

Cosponsorship as a Preference Indicator

One of the most fundamental ways to think about cosponsorship is as a tool for legislators to signal their preferences to their colleagues and constituents. Cosponsoring legislation is a relatively low cost activity legislators can use to take positions on important issues (Balla and Nemacheck 2000; Campbell 1982; Highton and Rocca 2005; Koger 2003; and Mayhew 1974). Crisp et al. 2004b explain that the coauthors with whom a legislator collaborates may be just as important as the content of legislation for signaling the legislators' preferences. This is because, if we assume that legislators only work with likeminded colleagues, those who have similar preferences and agendas, than

[2] Unlike research that focuses on the type of legislation women cosponsor (Swers 2002; Swindt-Bayer 2010), this research examines the nature of cosponsorship coalitions.

we can learn a lot about legislators' preferences, relative to their colleagues, by observing who works with whom. Moreover, legislators can use cosponsorship activity to make themselves appear more similar to some colleagues while distinguishing themselves from other colleagues. As such, who a legislator coauthors with may be even more informative than the content of the legislation. Along a similar vein, Alemán et al. (2009) measure legislative preferences by using cosponsorship data to recover ideal point estimates. They rely only on the cosponsorship coalitions (and not on the content of legislation) to determine legislators ideologically positions, and demonstrate that evaluating cosponsorship activity is useful for understanding legislators ideological positions. In sum, cosponsorship coalitions can be viewed as a means of communicating legislative preferences.

Cosponsorship as a Networking Tool

Cosponsorship can also be a tool to network with likeminded colleagues and build support networks for shared interests. I conducted a large number of interviews in the Argentine provinces, and numerous respondents indicate that one of the primary motivations for cosponsoring legislation is to demonstrate to their colleagues that there is strong support for a piece of legislation.[3] When multiple legislators come together in support of an issue it is more likely to receive some attention in the chamber and it can even increase the probability that an issue gets on the legislative agenda (Kurtz 2005, Wilson and Young 1997). It signals to both their colleagues and party bosses that the

[3]Interviews were conducted with approximately 175 Argentine deputies, party officials and elite political observers between August 2009 and June 2010. In keeping with the Institutional Review Board requirements for this project, interviewees will remain anonymous.

legislation is of particular interests to multiple party members. While interviewees indicate that cosponsoring legislation with copartisans may not increase the probability a bill passing, they believe bills are more likely to pass when they have cosponsors from multiple political parties.

Thinking about cosponsorship as a networking tool is particularly useful when we think about women's legislative behavior. Since women were previously excluded from the legislative arena there are many issues that impact women's daily lives that have previously gone unaddressed. Cosponsoring legislation is a constructive way for women to demonstrate to their colleagues that issues of this nature are important to a number of legislators and have widespread support. Previous research often conceptualizes women's substantive representation as women forming "alliances" to accomplish shared goals (Beckwidth 2007:37; Kanter 1977: 966) and as women "networking-with likeminded women inside [the legislature]" (Franceschet and Piscopo 2008: 397), but empirical work has not attempted to measure this concept. In this research I evaluate women's propensity to form gender-based alliances and network with likeminded women by examining their cosponsorship patterns.

Cosponsorship as a Reputation Builder

Finally, cosponsorship is an important tool for credit claiming and advertising (Fenno 1978, Bratton and Haynie 1999). It is true that most voters are not likely to recall a single piece of legislation that their state or national legislators authored or coauthored; other groups (i.e., interests groups, unions, the media, and other elite political observers) however, pay close attention to how legislators behave in office. These groups provide

information short cuts to voters, telling them what leaders stands for and who to support in elections. For example, one interviewee explained that legislators might choose to author and coauthor legislation on education issues in effort to curry favor with teachers unions. While individual voters are likely not privy to their legislative behavior, union leaders do pay attention and use their position of influence to shape voters' views of legislators. As such, cosponsoring legislation is a tool legislators can use to brand themselves as caring about certain issues. Legislators can do this both by coauthoring legislation that focuses on specific issues and by affiliating with political networks that reflect a certain image. Legislators can signal their legislative preferences to observers and curry favor with watch groups by coauthoring relevant legislation with a colleague that has a strong rapport with that group. In this way, legislators can use cosponsorship to claim credit for and advertise their position on a larger number of issue than they could if they choose to author alone. Moreover, they can brand themselves as being similar to other legislators. This may help them build favor with watch groups of interests, which has clear electoral payoffs. Therefore, scholars can use this cosponsorship information to draw inferences about the types of reputations legislators are trying to establish.

Conclusion

This dissertation makes three broad contributions. First, it addresses theoretically interesting questions regarding the factors that influence women's legislative behavior. It does so by examining how changes in the proportion of female legislators and the adoption of gender quotas influence women's legislative behavior. Then, it builds on this body of literature to develop expectation about how different electoral institutions shape

women's legislative behavior. This research explains one of the ways that institutions structure legislative behavior to produce outcomes that deviate from expectations developed by behavioral approaches. This is an important step for the literature on gender and politics as scholars began to develop our understanding of how institutions may structure women's legislative behavior in slightly different ways than it does men's.

Second, this dissertation contributes to the study of women in politics by introducing a new conceptualization of women's legislative behavior and a new measurement. Specifically I use cosponsorship data to examine legislative behavior. Cosponsorship data offer multiple qualities that are desirable for scholars of legislative studies. Cosponsorship data is useful for assessing legislative preferences, political networks, and understanding how legislators target their reputations. These are some of the most important concepts analyzed by scholars of legislative behavior. Still, legislative studies that examine cosponsorship behavior are typically limited to a very small number of legislative chambers. I move beyond this limitation by collecting an original data set of cosponsorship data that permits me to examine legislative behavior for 23 different legislative chambers. Moreover, little work has been done to improve our understanding of women's legislative behavior using cosponsorship data. This dissertation offers a unique approach to the study of women's legislative behavior. I use cosponsorship data to contribute to our understanding of how women's and men's legislative preferences differ from one another's, and to enhance our understanding of how changes in the adoption of gender quotas, changes in the proportion of female legislators, and institutional incentives influence women's legislative networks and the way they build their legislative reputations.

Finally, this dissertation contributes to the literature on legislative institutions by developing a new and exciting data set that will be used to answer a number of questions beyond the dissertation. This dissertation project produced a data set that contains legislative activities and political appointments across a large number of legislative chambers (as many as 32 chambers for some variables) over a long time span. It is among the few data sets that offer a systematic collection of legislative behavioral variables for a large number of legislative chambers. Typically, even when scholars pool their resources, it is uncommon that datasets contain more than several legislative chambers. It is difficult to draw systematic conclusions from such a limited number of observations. As such, this data set will be useful for a number of projects beyond the dissertation.

Chapter 2

Gender and Legislative Preferences

Women are underrepresented in most of the world's legislatures. While the scarcity of female representation is problematic for multiple reasons, one of the central concerns of advocates and scholars alike rests on the assumption that women have different legislative preferences than their male counterpart. If this is the case, then this implies that where women do not occupy an equitable proportion of the legislature, their interests are not well represented.

Despite this, there is reason to believe that the lack of female legislators may not be problematic for women's representation. This is because many scholars assume that all legislators have an electoral incentive to represent constituents' interests. This implies that, even if female legislators have different preferences, they will not behave differently than their male collogues. Given the divergent expectations of these two assumptions, scholars have developed a keen interest in understanding if gender shapes legislative preferences and the extent to which this is observable through legislative behavior.

To assess this question multiple studies have used roll call voting to measure legislators' preferences. These analyses result in mixed findings. I argue that while male and female legislators are likely to exhibit distinct legislative preferences, roll call data has limitations that make it difficult to assess these differences. Legislative roll call voting is highly structured by party discipline, negative agenda control, and constituency influences. Consequently, few intra-party differences emerge in roll call data. Given these limitations, other types of political behavior that can be used to measure legislative preferences may be preferable for examining within party differences.

Alemán et al. (2009) demonstrate that political scientists can measure legislative preferences by using cosponsorship data to recover ideal point estimates relatively comparable to those recovered from roll call voting. But, unlike roll call voting, cosponsorship activity is not structured by party discipline or negative agenda control (Talbert and Potoski 2002). As a result, cosponsorship data reveals significantly more intra-party variation and a higher dimensionality than roll call data. As a result, cosponsorship analysis may be a more useful tool for exploring how intra-party differences, such as gender, influence legislators' preferences. The goal of this research is to examine if gender differences emerge when cosponsorship behavior is used to measure legislative preferences.

The next section briefly reviews the literature that uses roll call data to examine gender differences in legislative preferences. Next, I discuss the drawbacks of roll call analysis, which make it difficult to uncover gender differences. In the third section I discuss cosponsorship analysis as an alternative for examining legislative preferences. Finally, I use an original data set that includes cosponsorship data from 18 legislative chambers to examine gender differences in legislative preferences.

Gender and Roll Call Voting

Despite significant gains over the past decade, women remain underrepresented in most of the world's legislatures. While there is a strong normative concern for electing representatives who reflect the demographics of a constituency, the implications of gender inequality in representative bodies extends far beyond the debate of descriptive representation. One of the chief concerns rests on the assumption that female legislators

exhibit different legislative preferences than their male colleagues. These divergent legislative preferences influence how legislators govern and how they represent their constituents. If female legislators do, in fact, exhibit different preferences than males, than the disparity between the number of female and male legislators may indicate that women's interests are underrepresented.

This argument is based on the idea that historically marginalized groups have shared life experiences that give them different perspectives on a broad set of issues (Phillips 1995; Mansbridge 1999). In this view, members of these groups, or "descriptive representatives" may be better suited to represent their interests (Pitkin 1967). This is because personal traits (e.g., gender or race) may influence legislators' behavior "above and beyond the extent motivated by constituency and party pressures" (Bratton and Haynie, 1991: 659). This does not imply that all female legislators represent the same perspective, but rather that they represent a host of female perspectives that are distinct from their male colleagues (Piscopo 2011). Additional research supports the notion that female legislators are more likely to view women as an important and distinct part of their constituency (Reingold 1992; Thomas 1997). Women elected via gender quotas may even feel a mandate or obligation to act on behalf of women (Franceschet and Piscopo 2008). As a result, many studies suggest that women's descriptive representation is a necessary component to sufficiently represent female constituents.

On the other hand, there is reason to believe that female legislators may not represent women differently. This argument is based on rationale that the primary objective of all legislators is reelection (or advancing one's political career). Regardless of their sex, all legislators have an incentive to represent their district's interests

(Mayhew 1974). Female legislators, by implication, will not represent constituents differently than their male colleagues and gender differences will not be observable via legislative behavior. Given these opposing expectations, scholars of gender and politics have developed an interest in understanding if gender shapes legislative preferences.

Over the past few decades analyses of roll call voting has become a standard practice for measuring legislative preferences. These analyses rely on multiple different scaling techniques (e.g., Clinton, Jackman, and Rivers 2004; Londregan 2000; Martin and Quinn 2002; Poole 2000; Poole and Rosenthal 1991; 1997) as well as various interest group scores (e.g., Americans for Democratic Action, and the American Conservative Union) to determine legislators' preferences in relation to one another. As a result, numerous studies have used roll call voting to examine the extent to which female legislators exhibit different preferences than male legislators. Yet, findings from roll call voting analyses are mixed. Several studies find that gender does affect voting patterns of female legislators (Burrell 1994; Clark 1998; Frankovich 1977; Hogan 2008; Leader 1977; Welch 1985). At the same time, other studies find no, or only qualified support for gender differences (Vega and Firestone 1995; Barnello 1999; Schwindt-Bayer and Corbetta 2004; Thomas 1989).

Schwindt-Bayer and Corbetta (2004) argue that one reason previous research has delivered mixed findings is because most research designs do not properly account for constituency characteristics. While they grant that women may be more liberal than men, they suggest that more liberal roll call voting patterns result among women because they are often elected in more liberal districts. Moreover, district characteristics are difficult to account for using conventional control variables. They employ a research design that

relies on legislative turnover to hold constituency characteristics constant across legislators, and find no gender differences in roll call voting.

Studies that limit the analysis to roll call votes on women's issues also result in mixed findings. Some find that gender is a significant predictor of vote choice (Tatolovich and Schier 1993), and women are more likely to vote together across party lines (Swers 1998, 2002). For example, Swers finds that Republican women are particularly more likely to defect from the party line to support women's issues in the U.S. Congress. Yet, in a study with a similar research design, Barnello (1999) shows this finding is not generalizable to the New York State Assembly. In sum, previous research that uses roll call voting to measure legislative preferences finds, at best, mixed support that for the hypothesis that women display different preferences than their male colleagues.

The Drawbacks Roll Call Data

While there is considerable reason to believe that men and women have different legislative preferences, there is reason to believe that roll call voting may not be the best place look for gender differences among legislators (Norton 1997; Poggione 2004; Schwint-Bayer and Corbetta 2004). First, a number of studies rely on interest group scores to examine gender differences in legislative preferences Yet, Norton shows that interests group indices often exclude votes of particular interests to women (1997). The exclusion of key votes makes it unlikely that gender differences will emerge.

Second, roll call voting is highly structured by negative agenda control. Legislative institutions give party leaders control over which bills come up for a vote.

Since party leaders have an incentive to protect the party brand name, it is rare that they permit legislation that divides the governing party to come to a vote on the floor (Cox and McCubbins 2005). Thus, roll call voting does not reveal information about the full range of legislator's preferences, rather it only shows where they stand on a small set of issues—issues that do not divide the majority party. Even in legislative chambers where legislators come under the pressure of multiple factions within the party, leadership can mitigate conflict within the party by negotiating policy outcomes before legislation is brought to a vote. Federalism, for example, can divide or weaken national level parties (Chhibber and Kollman 1998; Mainwaring 1999). In Argentina, for instance, provincial-level party leaders have considerable control over legislators' career prospects, causing legislators have a stronger incentive to represent the interests of provincial party leaders than those of national party leaders (Jones 2008). Nevertheless, such divisions do not diminish party voting unity because the governing party uses negative agenda control to keep issues that divide the party from coming to a floor vote (Carry 2009; Desposato 2004; Jones and Hwang 2005a). As a result, negative agenda control makes it difficult to identify divisions within political parties via roll call voting analyses.

Third, it is difficult to identify intra-party differences because roll call votes are highly structured by party discipline. Individual votes are typically decided by the party as a whole and members are expected to represent the party's preference, not their own. Party discipline is particularly strong outside of the U.S.[4] For example, in an analysis of

[4] In the U.S. context roll call voting is highly ideologically, and thus appears as though it may be governed by party discipline. McCarty, Poole, and Rosenthal (2001) argue that while party is an extremely strong predictor of legislators' ideal points, it is less clear the

15 countries, Carey (2009) explains that in most legislative chambers in Latin America roll call votes are a matter of party discipline, and legislators who break discipline are typically sanctioned. Thus, roll call data strongly reflect partisan divisions and provide little information about the intra-party relationship between legislators.

The combination of negative agenda control and high party discipline result in roll call behavior that is highly polarized and exhibits low-dimensionality. Although the large majority of research on roll call behavior focuses on the U.S. congress, low-dimensional special models have been found in a wide-variety of settings, including the United Nations, multiple countries across Europe, and all throughout Latin America (Poole and Rosenthal 2001, Carey 2009). Findings from Argentina are consistent with the broader literature on roll call data. In Jones and Hwang's detailed roll call analysis of the Argentine National Congress they demonstrate that an average of 93.2% of bills are correctly classified by the first (i.e., partisan) dimension (2005a). Given the small number of roll call votes in Argentina, this means that there were never more than 11 votes that were incorrectly classified, but more frequently there were as few as one or two (see Table 1 in Jones and Hwang 2005a). To account for the small number of bills that were not correctly classified by the partisan dimension, Jones and Hwang labored over newspapers, parliamentary debates, and personal interviews with deputies to identify any discernable commonalities in these bills. They conclude that, "no conceivable second dimension was detected" (2005a: 271). Given the highly polarized and low-dimensional

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extent to which legislators' positions are a product of party discipline or ideological discipline, electoral pressures, and other external pressures.

properties of roll call behavior, even if gender differences do exist, we may not expect to see them emerge in roll call voting.

Finally, roll call analysis poses practical problems for researchers looking beyond the U.S. Many legislatures do not record roll call votes at all making it impossible to use roll call analysis. Other chambers only record votes when a member formally requests a record vote. Selectively recording votes creates a biased sample. Taken together, the qualities of roll call analysis discussed in this section may explain why previous research has produced inconsistent evidence that gender influences legislative preferences.

Cosponsorship Analysis: A Possible Alternative

Given the challenges posed by roll call analysis, scholars of gender and politics have advocated looking beyond roll call analysis to uncover gender differences in policy preferences (Norton 1997; Poggione 2004). Similarly, recent literature has begun to explore how different types of legislative behavior, such as cosponsorship activity can be used to examine legislative preferences (e.g., Alemán el al. 2009; Talbert and Potoski 2002). In a recent study, Alemán et al. (2009) demonstrate that political scientists can measure legislative preferences using cosponsorship data to recover ideal point estimates relatively comparable to those recovered from roll call voting. But, unlike roll call voting, cosponsorship activity is not structured by party discipline or negative agenda control (Talbert and Potoski 2002). As a result, cosponsorship data reveals significantly more intra-party variation than roll call data and may be better suited for exploring more subtle intra-party differences. Given this, I use cosponsorship data to explore if women have different legislative preferences than men. Before proceeding to the analysis, it is

necessary to understand what I mean by legislative preferences with respect to cosponsorship data, as well as the disadvantages and advantages of using cosponsorship data to measure preferences.

Cosponsorship as a Preference Indicator

One of the most fundamental ways to think about cosponsorship is as a tool for legislators to signal their preferences to their colleagues and constituents. Cosponsoring legislation is a relatively low cost activity legislators can use to take positions on important issues (Balla and Nemacheck 2000; Campbell 1982; Highton and Rocca 2005; Koger 2003; and Mayhew 1974; Swers 2002). Crisp et al. (2004) explain that the coauthors with whom a legislator collaborates may be just as important as the subject matter of legislation for signaling the legislator's preferences. Legislators can use cosponsorship activity to make themselves appear more similar to some colleagues while distinguishing themselves from others. As such, *whom* a legislator coauthors with may be even more informative than the content of the legislation. Along a similar vein, Alemán et al. (2009) measure legislative preferences using cosponsorship data to recover ideal point estimates. They rely only on the cosponsorship coalitions—not the content of legislation—to determine legislators' positions. Unlike previous literature that examines women's preferences by examining if women sponsor and cosponsor legislation that is of particular interests to women (e.g., Schwindt-Bayer 2010; Swers 1998, 2002), their analysis of cosponsorship data allows us to understand representatives preferences vis-à-vi other representatives.

However, unlike ideal point estimates recovered from roll call votes, cosponsorship analysis results in a higher dimensionality (Alemán el al. 2009; Talbert and Potoski 2002). While the first dimension represents the primary cleavage in a legislature (e.g., often the partisan cleavage), other dimensions can be thought of as salient issue cleavages within the chamber. Taken together, when I refer to legislative preferences, I am examining if women exhibit distinguishable policy preferences from men, which manifest in distinct cosponsorship coalitions.

Disadvantages of Cosponsorship Data

It is also important to be familiar with the shortcomings of cosponsorship data. First, cosponsorship is a voluntary activity. Unlike roll call voting, where all members vote on the same issues, representatives must pick and choose which legislation they will cosponsor (Highton and Rocca 2005). While, roll call votes provide information about every member on every issue that comes to the floor, cosponsorship data only provides information about some members on some issues. When a representative chooses to cosponsor legislation, this activity provides a large amount of information about the legislator vis-à-vi other legislators, and it sends a clear signal that the representative supports the proposed policy location over the status quo. But, when a legislator does not cosponsor, there is no information about the representative's position. It is not clear what it means for a representative to refrain from cosponsoring. Not cosponsoring may signal that a representative is opposed to, not interested in, or simply not aware of the proposed legislation. Scholars cannot distinguish between the intentions of representatives who do

not cosponsor and therefore treat all choices to not cosign the same (Alemán et al. 2009). This is the primary shortcoming of cosponsorship analysis.

Second, some scholars question the amount of information that can be obtained from cosponsorship data because it is essentially "cheap talk" (Fowler 2006:459). Representatives who cosponsor legislation do not have to spend time drafting legislation, they just sign on. Cosponsorship is a low-cost way to signal one's position on issues (Kessler and Krehbiel 1996; Wilson and Young 1997). Cosponsorship cannot "reveal the depth of members' commitment" to issues (nor can roll call voting), but it is still a good indicator of their general interests (Swers 2002:57).

Advantages of Cosponsorship Data

Despite these shortcomings, cosponsorship analysis has substantial merits. The first benefit is that cosponsorship activity is not subject to negative agenda control. Legislative rules enable party leaders to reduce a multidimensional issue space into one-dimensional roll call votes via negative agenda control (e.g., Shepsle 1979). Conversely, legislative rules do not allow party leaders to formally monitor and restrict what legislation is introduced. Instead, legislators are relatively free to decide what legislation they would like to introduce and with whom they will cosponsor legislation. As a result, pre-floor decisions, such as cosponsorship, reflect a higher dimensionality and more intra-party variation than roll call votes (Talbert and Potoski 2002).

The second benefit is that cosponsorship activity is not governed by strong party discipline. In many chambers, legislators are required to vote in lock step with the party. This limits the amount of useful information scholars can extract from roll call votes.

Cosponsorship data remedies this problem by providing more intra-party information. Party leaders have relatively little incentive to exercise party discipline over bill cosponsorship for two reasons (Highton and Rocca 2005). First, cosponsorship activity it is not deterministic of policy outcomes. Most bills never come to a vote. Given this, it is more costly for party leaders to exercise party discipline in the pre-floor stage than to use institutional rules to prevent bills from advancing to the floor. Second, bill cosponsorship is less likely than roll call voting to adversely impact the party brand name. This is because news media and opposition campaigns tend to draw more attention to a legislator's voting record than the member's cosponsorship record (Sulkin and Swigger 2008). Since partisan and constituent pressures impose less structure on cosponsorship activity, cosponsorship analysis uncovers more dimensions than does roll call vote analysis, particularly in chambers with strong party discipline (Alemán et al. 2009).

Additionally, cosponsorship analysis has practical benefits. Cosponsorship data allows scholars to recover legislators' policy positions in chambers where roll call voting is not well recorded, or not recorded at all (as is the case in the Argentine provinces and many developing democracies) (Carey 2009). Moreover, scholars can measure cosponsorship behavior with practically no error. Given the attractive qualities of cosponsorship analysis for examining intra-party differences, I use this method to explore the extent to which women exhibit different legislative preferences than their male colleagues.

Sample Selection and Research Design

The Argentine provinces provide an ideal setting to examine if female representatives exhibit different preferences than their male colleagues. First, in many of the Argentine legislatures, representatives are elected from at-large electoral districts. At-large districts are adventitious because they allow me to hold district and constituency characteristics constant across legislators. Previous research argues that, first, it is extremely difficult to control for constituency and district influences; and, second, it attributes previous finding of gender differences in roll call voting to the lack of adequate controls (Schwindt-Bayer and Corbetta 2004). Schwindt-Bayer and Corbetta suggest that rather than trying to control for these subtle differences it is best to hold district and constituency constant. My research design takes a similar approach. I hold these variables constant by examining legislative behavior in at-large districts and districts with large district magnitudes. Specifically, 11 of the chambers in my sample use at-large districts to elect provincial legislators (see Table 2.2). The remaining six chambers have large district magnitudes. At-large districts and large district magnitudes allow me to compare legislative preferences of male and female legislators who were elected in the same district.

Second, the vast majority of the Argentine provinces have adopted a legislative gender quota. The quotas require that women occupy at least 30% of the candidate list for all political parties participating in legislative elections. The ubiquitous adoption of legislative gender quotas ensures that women are elected in all districts and also that they represent all legislative parties. Since the electoral law requires that every party in every district comply with the gender quota, women are not more likely to be elected in more liberal districts or by more woman-friendly parties. Every party, in every district must

comply with the gender quota to compete in the election.[5] The combination of gender quotas in at-large districts, allow me to compare the preferences of women and men who represent the exact same constituency. Consequently, if only constituency and/or partisan influences shape legislators' preferences then I can expect that on average, women will behave no differently than men. However, if personal traits, such as gender do have an impact, I can expect to find gender differences.

Third, the Argentine provinces are good candidates for examining if gender differences emerge in other types of legislative behavior, such as cosponsorship behavior, because roll call votes are not recorded in the Argentine provinces. Furthermore, even if votes were recorded, gender differences would not be discernable because the party leaders exercise strong negative agenda control and strict party discipline. As such, roll call data would not provide useful information. It is necessary, then, to examine earlier stages of the legislative process to understand intra-party differences. I traveled to each of the provinces in my sample to interview legislators, conduct archival research, and observe legislative sessions.[6] In every province, legislators and legislative observers described the same voting process. Legislators meet with their political parties in the reunión del bloques prior to floor votes to determine the party's position. On the chamber

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[5] Placement mandates ensure that every party in the provincial level election complies with the gender quota. Not ever province, however, adopted placement mandate language when quotas were first adopted. Some provinces adopted the placement mandate language in a later legislative session. In my sample this is the case for Buenos Aires, Córdoba, Corrientes, Mendoza, Río Negro, and Tucuman.

[6] While in Buenos Aires, I interviewed legislators from Santa Cruz. I did not travel there.

floor, all party members vote the same way. The provincial legislatures do not systematically record roll call legislation. Members simply raise their hands to signal their position, and only the final outcome is recorded. Elite political observers often noted that, when voting, legislators do not think for themselves; they simply raise their hands when they are told to do so.

If a member disagrees with the party position, the legislator may abstain from voting (which is rare) or risk party sanctions. Legislators who break with the party line are typically removed from the party or voluntarily leave the party. Since provincial party bosses largely determine the career patterns of Argentine politicians, breaking from the party typically means the end of a member's political career (Jones 2008). Thus, members rarely have an incentive to defect.[7] Given the strong party discipline that governs legislative voting in the Argentine provinces, gender differences would certainly not be detectable via roll call behavior (even if it were recorded). Rather, roll call behavior in the provinces would look very similar to roll call behavior in the National Congress. Recall that roll call analysis at the national level indicate that the Argentine Congress can be characterized by a single partisan dimension (Jones and Hwang 2005a). Further, additional analysis of roll call data from the Argentine Congress does not

[7] There are very few exceptions to this structure of roll call voting. On rare occasions, contentious votes are considered an issue of "conscience." If the chamber votes on an issue of conscience, members are permitted to vote as they personally see fit. These issues are few and extremely controversial. Consequently, they rarely come to a vote (on average no more than one or two per session).

uncover any gender differences.[8] The strong party discipline and negative agenda control that constricts the information available from roll call voting and the absence of record votes (a limitation common across Latin America [c.f. Carey 2009]) further illustrates the need to examine pre-floor behavior, such as cosponsorship analysis, in effort to discern gender differences in legislative preferences.

Finally, subnational institutions in federal systems merit scholarly attention—particularly from those scholars studying gender and politics—because subnational governments typically have jurisdiction over health and education policies. As Franceschet (2011) points out, this jurisdiction gives state governments influence over areas of reproductive rights, access to contraceptives, sexual education, and other issues that shape women's lives. Taken together, the Argentine provincial legislatures provide an excellent opportunity to examine if gender influences legislative preferences.

Ideal Point Estimates Using Cosponsorship Data

[8] I obtained replication data from Jones and Hwang (2005) to examine if gender differences emerge in their roll call data. I do not find evidence of gender differences. I also obtained replication data from Alemán et al. (2009) to examine if gender differences emerge when analyzing cosponsorship data in the Argentine National Congress. Using the exact same sample of representatives, I find that gender differences do emerge in the cosponsorship analysis of Argentina but not in roll call analysis. These findings can be explained by the fact that, as Jones and Hwang demonstrate, roll call data in the Argentine Congress is highly structured by party discipline and negative agenda control. Yet, cosponsorship data reveals more intra-party differences (Alemán et al. 2009).

The first step in my empirical analysis is to calculate ideal point estimates using cosponsorship data.[9] I employ the technique developed by Alemán et al. (2009). I first code the cosponsors of each piece of legislation authored during the period under study. For each piece of legislation a representative receives a "1" if they coauthor the legislation and a "0" otherwise. Second, I use this information to construct an affiliation matrix. This indicates the number of times each pair of legislators coauthor together. For example, in 2002 in the Córdoba Chamber Maria Amelia Chiofalo and Maria del Carmen Ceballos de Carbonetti coauthored 17 bills together. The affiliation matrix reflects this information for each legislator dyad in the chamber. Then, I use the affiliation matrix to calculate an agreement matrix. The agreement matrix indicates the ratio of legislation each legislator-dyad cosponsors together to the total number sponsored by each of them. Diputada Chiofalo coauthored 46 bills and 17 (or 37%) of those were with her colleague Diputada Ceballos de Carbonetti. Diputada Ceballos de Carbonetti, on the other hand, coauthored a total of 52 bills; so, only 33% of her bills (i.e., 17/52) were coauthored with Diputada Chiofalo. Finally, I use a principal component analysis with singular value decomposition to recover ideal point estimates from the log-transformed agreement matrix. Singular value decomposition is a way of factoring matrices into a series of linear approximations that expose the underlying structure of the matrix (or that best explains

[9] The cosponsorship data are based on an original dataset that I collected by visiting each legislative chamber between August 2009 and May 2010. With the exception of Santa Cruz, data was obtained from the parliamentary services or the legislative archives in the provincial legislatures. Data for Santa Cruz was collected from the online archive in December 2009.

the variance in the data). As a result, when two members coauthor together frequently, their ideal point estimates will likely be more similar than coauthors that rarely work together. Hence, Diputada Chiofalo's ideal point estimate on the 1st dimension (.67) is closer to Diputada Ceballos de Carbonetti's (.46) with whom she coauthored 17 bills and has an agreement score of 37% than it is to Diputado Jose Tanus Rufei's (.28), with whom she only coauthored 4 bills and has an agreement score of 9%. I recover the ideal point estimates for the first two dimensions.[10]

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[10] See Alemán et al. for a detailed discussion of the method employed here. Alemán et al. compare cosponsorship analysis between the U.S. Congress and the Argentine Congress. These chambers exhibit different cosponsorship behavior in terms of the size of cosponsorship coalitions. There are a number of ways one could create comparability between the two chambers. For example, they use a log transformed agreement matrix for the Argentine Congress and an agreement matrix without a log transformation for the U.S. Congress. There is similar variation in the cosponsorship patterns of the Argentine provinces. In some provinces it is common for members to form small cosponsorship coalitions (two to five members). In other provinces it is not uncommon that whole parties mobilize to coauthor legislation together (20 to 30 members). Since party level decisions to cosponsors bills are not consistent with the underlying assumptions of the research and do not reveal intra-party differences, in addition to using the log transformed agreement matrix, the results presented here omit bills coauthored by nearly the whole chamber or those coauthored by the vast majority of the dominant parties. The results are robust to this decision.

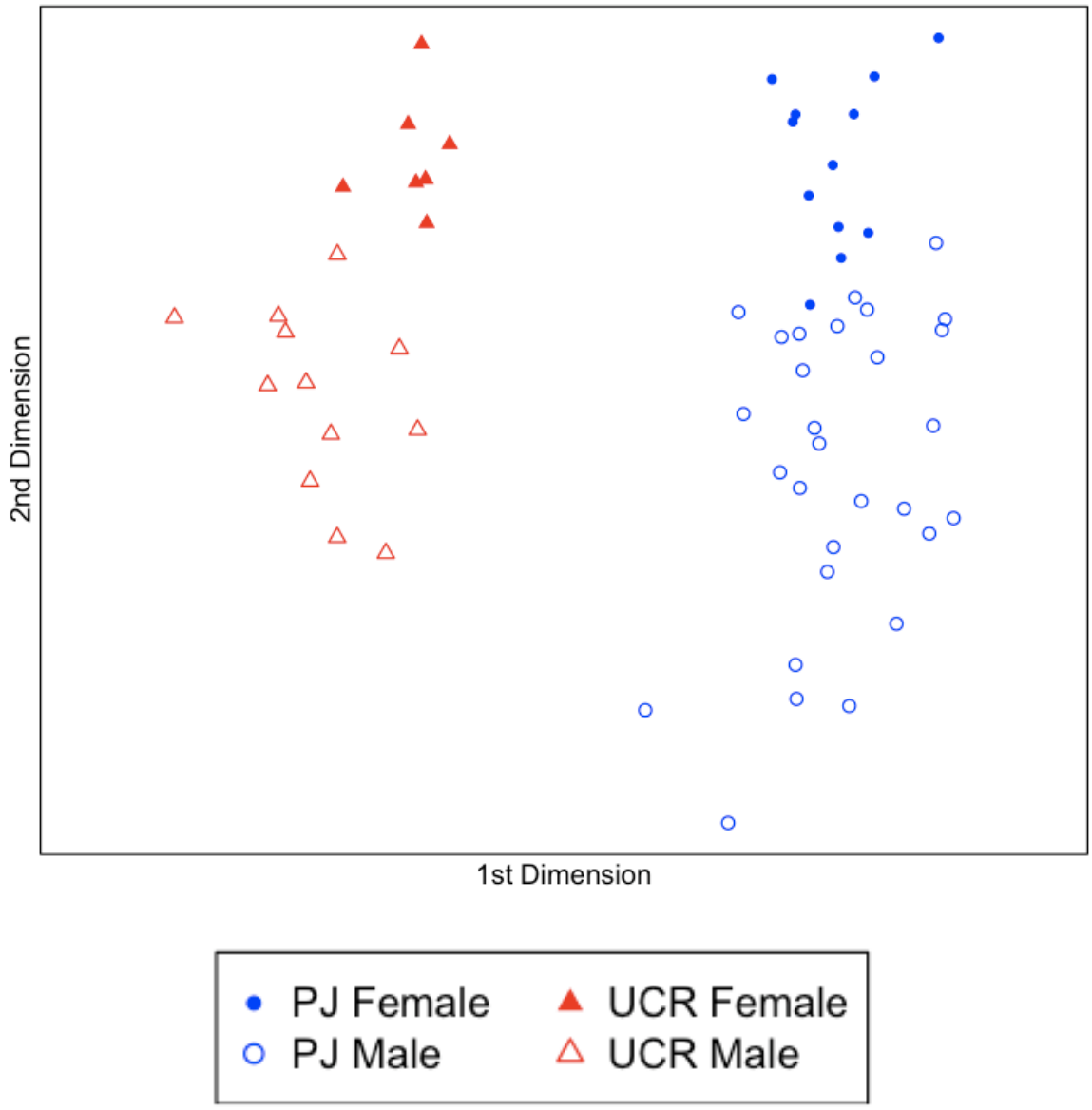
Plots of the ideal point estimates reveal that similar to the National Argentine Chamber of Deputies, the provincial legislatures in Argentina are organized along a government vs. opposition continuum, which can be interpreted as a partisan index. As an illustration of this pattern, Figure 2.1 plots the ideal point estimates recovered from 1st and 2nd dimension from the Unicameral Chamber in Córdoba from the 2002-2003 period. During this period two political parties controlled the Chamber of Deputies: the Partido Justicialista (PJ—the governing party) and Unión Cívica Radical (UCR).[11] As Figure 2.1 illustrates, this inter-party dynamic largely explains the 1st dimension. There is relatively high and stable inter-party heterogeneity in legislators' cosponsorship behavior. This is exemplified by the division in ideal point estimates between parties and the relatively limited intra-party variation on the 1st dimension.

During this legislative period in Córdoba, the 1st dimension only explains about .40 of the variance in cosponsorship behavior. The 2nd dimension explains an additional .16 of the variance. Given the relatively unstructured nature of cosponsorship behavior, the significant proportion of variance explained by the second dimension (relative to analyses of roll call voting) is not surprising. It is consistent with the discussion of cosponsorship behavior, and it provides evidence that the 2nd dimension merits attention. Whereas the 1st dimension in this plot illustrates a sharp partisan divide, the 2nd dimension illustrates more intra-party heterogeneity. The 2nd dimension represents salient issue cleavages within the political parties. While multiple issue cleavages may arise within the parties this research is primarily focused on identifying gender differences. The plot clearly shows that gender differences emerge in the 2nd dimension. The ideal point

[11] In 2002 in Córdoba the PJ was part of the Alliance for the Union of Córdoba.

estimates for the PJ and the UCR demonstrate that women tend to have more similar preferences to their female copartisans than to their male copartisans. This difference is evident from the way that female legislators cluster on the north end of the plot.

Figure 2.1: Scatter Plot of Ideal Point Estimates: Example from The Unicameral Chamber of Deputies in Córdoba 2002-2003.



The clustering of ideal point estimates represent the propensity of women to work together in an effort to introduce legislation that raises awareness around social issues;

and secondly, to coauthor important legislation for women, children, and families. For example, in 2000, ten females from the Córdoba Chamber of Deputies coauthored legislation to create the Provincial Council of Women. The goal of the agency is to bring together a range of political actors to promote women's rights. While, ten women initially created the agency, the coalition of actors who influenced the development of the council grew to include the vast majority of female legislators. In 2002, 23 females coauthored legislation amending the structure of the council's executive bureau. This is only one of the 25 bills in the Córdoba Chamber in 2002 that was coauthored by a coalition of five or more women.

Consistent with the example from Córdoba, in most of the legislative chambers in my sample, the 1st dimension reflects sharp partisan divisions. This is because it is more common for representatives to coauthor with copartisans than with colleagues outside their party. Interviews with representatives in all chambers suggest that it is rare for legislators to seek out a coauthor from the opposition party, and this norm is clearly reflected in the data. The 2nd dimension tends to reveal more intra-party variation, which indicates that gender differences may be more likely to emerge here. As such, I will examine ideal point estimates from both the 1st and 2nd.

Measuring Gender Differences

In this section I use the ideal point estimates to measure differences between women's and men's legislative preferences. I am specifically interested in evaluating gender differences within political parties. Therefore, I only evaluate differences between members from the same political party. I measure these differences by taking the absolute

value of the dyadic difference between each female legislator's ideal point and each of her copartisans. This allows me to measure if women's preferences are closer to their female copartisans than they are to their male copartisans.

This measurement is particularly appropriate for the Argentine context. Like many political party systems in Latin America, Argentine political parties do not have strong ideological differences and do not exhibit stable policy preferences over time (De Riz 1995; Gibson and Calvo 2000; Manzetti 1993). (Jones and Hwang 2005a). Rather, Jones and Hwang characterize the National Chamber as being organized along government vs. opposition continuum. While this can be interpreted as a partisan index, the left-right ordering of the parties cannot be directly interpreted as liberal-conservative. Political parties, in other words, do not consistently occupy the same ideological position from year to year, from province to province, or even from legislator to legislator within the same chamber (Jones and Hwang 2005b). For example, Barnes and Jones (2011) point out that in the past two decades, presidents from the Partido Justicialista have occupied multiple ideological positions (i.e., President Menem [conservative, 1989-1999], President De la Rúa [centrist, 2000-2001], President Kirchner [progressive, 2004-2007], and President Fernández [progressive, 2008-present]). Similarly, Jones and Hwang uses elite survey data to demonstrate that Congress members from the main Argentine parties (i.e., the PJ and the UCR) are often "indistinguishable in terms of their ideological self-placement" despite that their voting behavior on the floor is "quite distinct and polarized" (2005b: 133). By contrast to the U.S. Congress, political party affiliation in Argentina is not indicative of a representative's ideology. Moreover, Argentina is unique in that there are a large number of political parties that compete in

only one province (De Luca, Jones, and Tula 2002). These characteristics of the Argentine political system make it impossible to develop expectations about how female legislators will differ from male legislators on a left-right continuum, or to apply one expectation to all provinces.

I can, however, assume that legislators who are located close to one another on a given dimension are more similar than legislators who are located further apart. Therefore, I measure gender differences as the absolute value of the difference between each female legislator and each of her copartisans (i.e., $|\text{ideal point}_{L1} - \text{ideal point}_{L2}|$). The theoretical distance ranges from 0 to 2. It is worth repeating that I am only interested in gender differences *within* political parties, so I limit my analysis to copartisan dyads. If gender differences do exist within parties, than the average distance between female-female dyads will be smaller than the difference between female-male dyads. Since the 1st dimension reflects a sharp partisan divide, and the 2nd dimension reveals more intra-party variation I examine both dimensions.

Estimation Technique

To see if a gender difference exists between these two groups (i.e., female-female dyads compared to female-male dyads), I regress the gender composition of the dyad onto my dependent variable. This variable labeled *Female* is coded "1" for female-female dyads and "0" for female-male dyads. Since my sample selection holds district and constituency characteristics constant for all legislators in the same legislative session and only compares copartisans, I do not need to control for these variables. Still, there is variation across legislative chambers and within legislative sessions. For example, one

may think that the status of women within the province or the legislative chamber may influence women's behavior. To account for this variation, I control for the percentage of women in the legislative chamber during each session, the economic development of the province (measured as GDP), the Gender-related Development Index (GDI) in each province. Secondly, it is possible that different electoral rules influence the way representatives behave. I control for the type of district used to elect members (i.e., multi-member or at-large).

Given the structure of my data (i.e., there are three levels: dyads are nested within legislators, legislators are nested within legislative sessions, and legislative sessions are nested within legislative chambers) I estimate this relationship using a hierarchical linear model (Gelman and Hill 2007). I include three random intercepts, one for each level in the data: individual legislators, legislative sessions, and legislative chambers. The inclusion of a random intercept relaxes the assumption of independence of errors for observations within the same level. Omitting the random intercepts would produce biased standard errors; potentially biasing the results in favor of gender differences. The results for the pooled analysis are in Table 2.1.

Do Gender Differences Exist?

Look first at Model 1 in Table 2.1. Model 1 indicates the average distance between female-female dyads compared to the average distance between female-male dyads using ideal point estimates obtained from the 1st dimension. In the pooled analysis the coefficient for female-female dyad (-.025) is negative and the p-value is significant at the .001 level. The results indicate that on average, the ideal point estimates of females

are closer to the ideal point estimates of their female copartisans than they are to the ideal point estimates of their male copartisans, signifying that the preferences of female legislators are more similar to other females. The analysis indicates that gender differences emerge in the 1st dimension.

Table 2.1: Intra-Partisan Gender Differences in Legislators' Ideal Point Estimates, Estimated Coefficients from HLM using the Pooled Sample.

	Model (1) 1st Dimension	Model (2) 2nd Dimension
Female	-0.025***	-0.052***
	(0.006)	(0.006)
% Women	0.190	-0.289
	(0.244)	(0.235)
GDI	-1.668	-2.146
	(1.627)	(1.672)
GDP	0.208	0.329
	(0.473)	(0.479)
At-Large	-0.007	-0.009
	(0.054)	(0.057)
Constant	1.621	2.182*
	(1.265)	(1.302)
St. Dev. Of the Random Effects Intercepts		
Chamber-Level	-2.508***	-2.384***
	(0.306)	(0.262)
Session-Level	-1.981***	-2.078***
	(0.090)	(0.098)
Legislator-Level	-1.930***	-1.912***
	(0.036)	(0.035)
St. Dev. Residual	-1.262***	-1.233***
	(0.007)	(0.007)
Chambers	18	18
Sessions	118	118
Legislator-Dyads	11512	11512

Standard errors in parentheses
* p<.10, ** p<.01, *** p<.001
Coefficients from HLM and pooled sample Standard errors in parentheses. The dependent variable for Model 1 (Model 2) uses ideal point estimates from the 1st dimension (2nd dimension).

Given that the 1st dimension is largely structured by partisan differences and, secondly, that it only explains about half (on average .44) of the variance in cosponsorship behavior, it seems reasonable to assume that gender differences will also

be present in the 2nd dimension.[12] The 2nd dimension reveals more intra-party heterogeneity and explains, on average, an additional .16 of the variation in cosponsorship behavior.

Model 2 in Table 2.1 reports the results for the analysis of the 2nd dimension. First, notice the size of the coefficient for the constant (2.182). This indicates the average distance between female and male representatives from the same party. The coefficient is much larger than the constant reported for Model 1 (1.621). The larger coefficient indicates that the average distance between female and male copartisans is larger on the 2nd dimension than it is on the 1st, providing further evidence that the second dimension exhibits more intra-party heterogeneity. Next, look at the coefficient for *Female* (-.052). Similar to the 1st dimension, the negative coefficient indicates that female legislators have preferences that are more similar to their female colleagues than to their male colleagues. Moreover, the coefficient is more than double the size of the coefficient reported in Model 1 (-.025). The larger coefficient indicates that gender better predicts differences on the 2nd dimension than it does on the 1st dimension. This finding is not surprising since the 2nd dimension reveals more intra-party variance. These analyses support the widespread hypothesis that gender shape legislative preferences and behaviors.

[1212] From a comparative prospective, one may anticipate the 1st dimension to explain more variance in chambers that exhibit more ideological structure. Nonetheless, since cosponsorship data are not subject to the same partisan pressures as roll call data, it is probable that intra-partisan variation will emerge in later dimensions. As such, gender differences are likely to emerge in any chamber where women work together frequently to promote shared interests.

Chamber Level Analysis

The pooled analysis indicates that gender differences emerge in both the 1st and 2nd dimensions. Still, gender differences may not be present in each of the legislatures in my sample. To better understand how widespread gender differences are I estimate individual models for each of the 18 legislative chambers in my sample. Excluding the (now unnecessary) chamber-level intercept as well as the chamber-level and session-level indicators, I use the same estimation technique as before to evaluate the difference in female-female dyads compared female-male dyads.[13]

The results from the chamber-level analysis are summarized in Table 2.2. Although the 1st dimension tends to represent sharp partisan divisions, gender differences between co-partisans emerge in 8 of the 18 chambers. These findings may be surprising given the partisan nature of the 1st dimension. While the 1st dimension explains a large proportion of the variance in cosponsorship behavior, it is slightly less than half (see Table 2.2 row 7). The relatively small proportion of variance explained by the 1st dimension indicates that the ideal points obtained from cosponsorship data are far from being one-dimensional and illustrates the value of looking beyond the 1st dimension.

The sixth column in Table 2.2 summarizes the results from the 2nd dimension. Again, it is important to note, in each case, the 2nd dimension accounts for a significant amount of the variance. The proportion of variance explained in the 2nd dimension ranges from .10 to .20; indicating that in every chamber analyzed in my sample, cosponsorship

[13] Given the small number of female legislators elected to each chamber I do not limit this analysis to women within the same district for the chamber-level analysis of multi-member districts. But, I only consider the at-large portion of the mixed member districts.

behavior reveals a higher dimensionality than is typically revealed in analyses of roll call voting. This further illustrates how the lack of partisan and institutional structures (which influence roll call voting behavior) allows me to extract more information about legislators' preferences from cosponsorship behavior. The significant amount of variance explained by the 2nd dimensions demonstrates the importance of analyzing the 2nd dimension.

The analyses of the 2nd dimension provide additional support for my finding, revealing gender differences for eight additional chambers (i.e., Buenos Aires House, Chaco, Córdoba House, Córdoba Senate, Corrientes, Mendoza House, Salta, and Tucuman). The Federal District, Mendoza Senate, Misiones, and Santa Cruz, revealed gender differences in the 1st dimension but not in the 2nd. In the case of the Federal District, Mendoza Senate, and Misiones, the coefficient was in the expected direction but is not statistically significant. Santa Cruz, on the other hand, is an outlier in the sample. Historically, the PJ has dominated the Santa Cruz legislature. The influence of the PJ is particularly pronounced since 2004. During the 2004 to 2007 period the PJ occupied 85% of the seats in the Santa Cruz legislature. During the 2008-2009 period the PJ occupied 77% of the seats in the chamber. Given the small presence of the opposition, the same partisan cleavage that is present in the other legislative chambers does not dominate the 1st dimension. Instead, the 1st dimension reveals more intra-party heterogeneity than in other chambers, and explains a larger proportion of the variance (.76). Considering this, it is not surprising that gender differences emerge in the 1st dimension and not in the 2nd in the case of Santa Cruz. A similar result emerges from the Misiones analysis where the 1st dimension explains .65 of the variance.

Conversely, the Federal District has a higher than average party fragmentation, as compared to the other provinces. This may help explain why gender differences do not emerge in the 2nd dimension in the Federal District. When there are more parties in the chamber, the partisan dynamics may not be as fully explained by the 1st dimension. As such, there may be less intra-party heterogeneity revealed in the 2nd dimension. Additionally, when party fragmentation is high, fewer members—and hence fewer women—are elected into each party. Since my analysis is focused only on copartisans, the smaller number of females per party would make it difficult to uncover gender differences among copartisans. It is less clear, why gender differences do not emerge in the 2nd dimension of the Mendoza Senate.

Overall, of 18 chambers I examine in this analysis, there are statistically significant gender differences in all but two of the legislative chambers, Chubut and Formosa. One the one hand, it is unexpected that gender differences do not emerge in the Chubut. This may be a product of the small number of cosponsors who sign on to every bill. There are generally only 2 or 3 cosponsors (an average of 2.38 on each bill in this analysis) in Chubut. On the other hand, in the case of Formosa the coefficient is in the expected direction. Give the small number of legislators in the chamber it is not unusual that there are not significant differences.

Finally, it is worth reiterating that the findings from this analysis are not a product of constituency characteristics or district demographics. Rather, gender differences are present in nine chambers that use at-large districts to elect legislators (i.e., Chaco, Córdoba House, Córdoba Unicameral, Corrientes House, Federal District, Misiones, Río Negro, Santa Fe, Santa Cruz). In these chambers, each legislator represents

the exact same district. Since constituency and district characteristics are held constant, we can be certain that these results are not driven by constituency differences.

The gender differences revealed in these analyses reflect women's propensity to promote shared interests by cosponsoring legislation. A female legislator I interviewed from Río Negro, explained that women work together on issues that affect women. She noted that since everyone has different ideologies and perspectives, they discuss their points of view to develop legislation that better represents a range of women. She has worked frequently with female colleagues to address issues concerning women's health and violence against women and children. This type of collaboration is evident in most of the provinces. For example, after the protection against family violence law was passed in the National Congress in 1994, groups of women in provinces across Argentina, formed coalitions to introduce legislation to raising awareness about family violence and encourage their province to adopt measures to comply with the national law. Women coalescing to promote issues of mutual concern such as the protection against family violence law are the types of behaviors that distinguish them in this analysis.

Conclusion

Democratic theorists often debate the significance of descriptive representation and its importance for democracy. In particular, scholars of gender and politics are interested in understanding if female legislators represent women constituents differently than their male colleagues. A key piece of this puzzle is to understand if female legislators exhibit different legislative preferences than male legislators and the extent to which this is observable in their legislative behavior.

Extant research that examines this question results in mixed findings. I suggest that it is difficult to uncover gender differences in legislative preferences with roll call data because roll call behavior is highly structured by party influences. Since cosponsorship behavior is less structured by party pressures, cosponsorship data may be more appropriate for examining intra-party differences such as gender. Using a new dataset based on cosponsorship data from 18 Argentine provincial-level legislative chambers I find that gender does influence legislative preferences. I demonstrate that gender differences are present within political parties in approximately 90% of the legislative chambers in my sample. Differences in women's and men's cosponsorship behavior emerge as a product of women coalescing to promote shared interests, to galvanize support for important policies, and to raise awareness around issues that disproportionately impact women's lives. Cosponsoring legislation with colleagues who share similar priorities provides a venue for women in legislative bodies to exhibit distinct preferences over policy outcomes.

The finding that men and women exhibit different legislative preferences suggests that the disparity in the numeric representation of men and women throughout the world's legislatures might be problematic for the representation of women's interests. Where women do not comprise an equitable proportion of legislative chambers, their preferences are likely not being given adequate weight and their perspectives do not have a sufficient influence in the legislative process. This finding illustrates the importance of women's descriptive representation and further legitimizes efforts to increase women's presence in decision-making bodies.

Table 2.2: Summary of Results from Chamber-Level Analyses and Sample Selection

Legislative Chamber	Years in Sample	Percent Women		Dimension		Proportion of Variance		District Type & Size
		Average	Range	1st	2nd	1st	2nd	
Buenos Aires	1996-2009	26	13-32		X	0.42	0.14	Multi-Member
Buenos Aires	1996-2009	23	17-31	X	X	0.59	0.15	Multi-Member
Córdoba Senate	1996-2003	15	27-30		X	0.35	0.17	Multi-Member
Mendoza House	1994-2009	20	15-25	X	X	0.24	0.13	Multi-Member
Mendoza Senate	1994-2009	19	13-24	X	X	0.31	0.16	Multi-Member
Salta House	1996-2009	18	13-27		X	0.43	0.16	Multi-Member
Tucuman	1996-2009	19	13-23		X	0.35	0.17	Multi-Member
Córdoba	2004-2009	32	27-34	X	X	0.40	0.16	Mixed with At Large
Río Negro	1996-2009	29	21-38	X	X	0.49	0.18	Mixed with At Large
Santa Cruz	1994-2009	14	4-21	X		0.76	0.10	Mixed with At Large
Chaco	1994-2009	29	13-38	X	X	0.48	0.17	At Large
Chubut	1996-2009	38	22-33			0.47	0.19	At Large
Córdoba House	1996-2003	27	8-31		X	0.36	0.13	At Large
Corrientes House	1994-2009	27	8-38	X	X	0.49	0.20	At Large
Federal District	1998-2009	36	33-38	X	X	0.35	0.16	At Large
Formosa	1996-2009	30	20-33	X	X	0.45	0.17	At Large
Misiones	1996-2009	27	23-30	X	X	0.65	0.15	At Large
Santa Fe House	1996-2009	27	26-28	X	X	0.40	0.14	At Large

* Columns 5 and 6 (labeled Dimension 1st and 2nd) summarize the findings from the chamber-level analyses. The results in column 5 (column 6) are based on a HLM that uses ideal point estimates from the 1st dimension (2nd dimension) to calculate the dependent variable. An *X* indicates the results are in the expected direction. Gray cells indicate p< .10 one-tailed.
Santa Cruz, Río Negro, and Córdoba Unicameral employ mixed-member electoral systems. In these districts a portion of the members are elected from single member districts (as is the case in Santa Cruz and Córdoba Unicameral) or small multi-member districts (Río Negro) and the rest of the legislators are elected from one at-large district. This analysis only includes members elected in the at-large district in order to hold constituency variables constant.

Chapter 3
Does Women's Descriptive Representation Influence Legislative Behavior?

Women are underrepresented in virtually all of the world's legislatures. In the early nineties, there was a widespread call for national governments to take action in correcting gender disparity at all levels of political representation. To date, constitutional, electoral, or political party gender quotas have been adopted in 98 countries. Campaigns to adopt gender quotas are often mobilized and justified by the claim that increases in women's presence in the legislature will result in more attention to women's issues (Sawer 2000). While quotas have been demonstrated under certain conditions to increase the numerical representation of women, and are designed to achieve equality in legislative power and decision-making, it is unclear if electing more women to legislative office is sufficient to influence policymaking. The extant literature has contributed to an understanding of how quota laws in combination with electoral laws affect the election of women legislators. What is less understood is the substantive impact of increased numbers of women in the legislature resulting from the use of gender quotas. In this chapter I explore how increases in women's numeric representation has influenced women's legislative behavior.

Previous research demonstrates, that increased descriptive representation leads to higher levels of substantive representation in the legislature (Chattopadhyay and Duflo 2004; Darcy, Welch and Clark 1994; Kathlene 1998; Kittilson 2008; Schwindt-Bayer and Mischler 2005; Thomas and Wilcox 1998). However this relationship is inconsistent across legislative chambers. Some studies have been able to demonstrate a strong positive relationship between descriptive and substantive representation, while other studies have

null results or even find a negative relationship (Franceschet and Piscopo 2008; Grey 2002; Marx, Borner, and Caminotti 2007; Taylor-Robinson and Heath 2003; Weldon 2002). Why is there so much variation in findings on substantive representation?

Extant research has identified multiple reasons why there is a lack of consensus regarding this relationship. This chapter will examine three of those reasons. One reason why there is no consensus with regards to how changes in the proportion of women impact women's legislative behavior is that few legislative chambers have a significant proportion of female legislators (Grey 2006). This makes it difficult to systematically evaluate the relationship between women's numeric representation and legislative behavior. Recently, many countries have significantly increased women's share of legislative seats, however this leaves scholars with a short timeline to this relationship. It is likely that the adoption of gender quotas will not result in immediate changes in women's legislative behavior. Thus, the second reason why there is likely no consensus in extent research is that it may take multiple legislative sessions before change is realized (Franceschet and Krook 2008; Grey 2006). As such, it is important for scholars to consider the duration of time that quotas have been in place to better understand how and when increases in women's representation will influence women's legislative behavior. Few studies, however, are able to examine this relationship over a significant timeline. Finally, the third reason why there is likely no consensus in the literature is that previous research rarely considers the institutional context that influence women's legislative behavior (Weldon 2002). This chapter seeks to address these three shortcomings.

I address the first two limitations by evaluating how increases in women's numeric representation influences women's legislative behavior over a large number of legislative chambers that host a significant proportion of female legislators for a extensive period of time. Specifically, I evaluate my hypotheses using legislator-level data from 23 Argentine provincial legislatures from 1992 to 2009 (i.e., data from both before and after the adoption of quotas). As the first country to adopt legislative gender quotas (in 1993 at the provincial level), Argentina is the only context in the world that offers a long time line of gender quotas (over 15 years) and a large degree of variation in the initiation and success of quotas. This is the only setting where one can examine the effects of gender quotas on substantive representation using a large number of observations across a diverse set of legislative institutions while making controlled comparisons (e.g., holding many contextual, historical, and cultural variables constant).

I address the third shortcoming in previous research by considering how the institutional context in the Argentine legislatures influences women's legislative behavior. I argue that similar to other forms of representation, the relationship between descriptive representation and substantive representation is conditional upon institutional incentives. Not all women have the same electoral incentive to represent women's substantive interests. In particular, I argue that women who were elected into legislative chambers where women are *not* well represented faced different election barriers than women who are elected in chambers where women are represented in higher proportions. These election barriers create incentives for women to distinguish themselves from their copartisans. Since women were largely absent from the political arena, women capitalize on their gender identity to distinguish themselves from the typical male copartisans. This

explanation of women's legislative behavior implies that as the percentage of women in the legislature increases women are less likely to work together to pursuer common agendas. This is the exact opposite of what the critical mass explanation implies.

This chapter will make several contributions. This project represents the first empirical efforts to examine women's legislative behavior over a large number of legislatures and is among the first to examine the impact of gender quotas by examining data from both before and after the onset of quotas.[14] Equally important, it develops and tests new hypotheses to explain how institutional incentives structure women's legislative behavior. Finally, in this project I develop a new measure of women's substantive representation. Previous research often conceptualizes women's substantive representation as women forming "alliances" (Beckwidth 2007: 37) and "networking-with likeminded women inside [the legislature]" (Franceschet and Piscopo 2008: 397), but empirical work has not attempted to measure this concept. I use cosponsorship data from 180 legislative sessions to operationalize the concept of gender-based alliances.

In the text that follows, I first discuss why we may expect there to be a direct relationship between the percentage of women in the legislature and women's substantive representation and how the duration of time since the implementation of quotas influence women's legislative behavior. Second, I develop an alternative explanation for when women will represent women. In the third section I provide an empirical test of the hypothesis that posits a direct relationship between women's presence in the legislature and women's legislative behavior and my alternative hypothesis. I demonstrate empirical

[14] This research is the first to consider women's legislative behavior over a large number of legislative chambers; see however, Kittlison (2008) and Weldon (2002) for studies that examine policy outcomes over a large number of legislative chambers.

support for the alternative explanation of women's substantive representation. I reserve the final section for concluding remarks.

The Direct Relationship

While there is a strong normative concern for electing representatives who reflect the demographics of a constituency, demands for increases in women's presence in the legislature extend far beyond the debate of equitable numeric representation. Campaigns to adopt gender quotas are often justified by the claim that increases in women presence in the legislature will result in more attention to women's issues (Karam and Lovenduski 2005; Krook 2009; Sawer 2000). There are many reasons to believe that increases in the number of representatives of historically marginalized groups will lead to increases in substantive representation of those groups (Mansbridge 1999; Phillips 1995; Weldon 2002; William 1998; Young 1990). This argument is based on the idea that historically marginalized groups have "overlooked interests" (Phillips 1995). Since many of these issues have not previously been part of the legislative agenda, they are often not fully articulated (Mansbridge 1999). Given the often-ambiguous nature of these issues, members of these groups (descriptive representatives) may be more likely and better suited to represent these interests. This may be because descriptive representatives are more likely have shared life experiences that give them different perspectives on a broad set of issues (Phillips 1995; Mansbridge 1999). Alternatively, it may simply be because they are more likely to empathize with the group's concerns and take interest in learning about its welfare (Weldon 2002). This does not imply that all female legislators represent the same perspective, but that they represent a host of female perspectives that are

distinct from their male colleagues (Piscopo 2011). Thus, many studies suggest that increases in women's descriptive representation will lead to increased attention to women's issues (substantive representation).

Critical Mass

Despite that there is good reason to believe that increases in women's numeric representation may lead to increases in women's substantive representation, existing literature is unable to demonstrate consistent findings for this relationship. Some scholars argue that this is because the percentage of women in a legislature must reach some critical threshold before women will work together and produce substantive outputs. This idea is commonly known as the critical mass hypothesis (Dahlerup 1988). This reasoning relies on the assumption that women behave differently depending on the proportion of the group that they occupy. The concept of critical mass is based on a sociological theory of organizational tokenism (Kanter 1977).[15] Kanter theorizes that when women occupy less than 15% of the organization (i.e., a token position) they will experience social isolation and be subject to "loyalty tests" (978) by the dominant group, preventing them from allying with other women. They will also be subject to "roll entrapment" (984), which results in adaptive behavior and minimize change potentially brought about by female presence in an organization. Once women comprise more than 15% (i.e., a minority), they will feel less restricted by these pressures. Women in a minority should experience less pressure to align with the dominant group, and feel more freedom to work with other minorities.

[15] Other variations of the theory, which develop similar expectations, are based on nuclear physics (Norris and Lovenduski 2001).

In applying these ideas to legislatures it is necessary to consider pressures of party discipline (Beckwith 2007). Scholars assume that when women only occupy a token status of a group they will feel social pressure to maintain the status quo. In the case of legislatures, the status quo is defined by party politics. Moreover, they assume that the typical party platform does not emphasize women's issues. Thus, when women only occupy a token status of the group they are more likely to toe the party line and unlikely to represent women's issues. Further it assumes that once women comprise a critical mass they will feel less restricted by party pressures and feel more freedom to work with other minorities. Given that gender is a crosscutting cleavage, that impacts members from multiple political parties, it is plausible that women will want to collaborate with women outside their own political party. If reaching a critical mass in the legislative chambers relieves some of the pressure to toe the party line then women may also be more likely to cross party lines to work with women from other political parties. This discussion of how leads to two competing hypothesis. The first portion of the discussion implies that there may be a direct and linear relationship between increases in women's numeric representation and women's legislative behavior.

Hypothesis 1: As the percentage of women in the legislature increases women will be more likely to organize a gender-based alliance within the legislature.

However, if the relationship is not linear and women must occupy some threshold of the legislature before increases in numeric representation influences women's representation, than this implies the familiar critical mass hypothesis. Moreover, Beckwith suggests that

increases in women's numeric representation may make them more likely to cross party lines to collaborate with female colleagues.

Hypothesis 2: When women occupy token status they will be less likely to organize a gender-based alliance within the legislature than in legislatures where women comprise a critical mass (Beckwith 2007).

Hypothesis 3: When women occupy a token status they will be less likely to cross party lines to organize a gender-based alliance within the legislature than in legislatures where women comprise a critical mass (Beckwith 2007).

The principle difference between Hypotheses 1 and Hypotheses 2 and 3 is that the former posits a direct and liner relationship between women's numeric representation and women's legislative behavior. The later posits that women must reach some threshold before increases in numeric representation will influence legislative behavior. For decades now, political scientists have drawn on the idea that once women reach some threshold we will observe change in their political behavior. Scholars have applied this logic to their research in effort to determine what percentage of women is necessary to constitute a critical mass and how critical mass influences legislative outputs. Scholars have examined, for example, the effects of critical mass on legislation (Thomas 1994), political agendas and floor debates (Freedman 2002; Perceval 2001), and parliamentary culture (Lovenduski and Norris 2003; Grey 2002). Yet, few are able to confirm a clear critical mass. Some posit the necessary proportion is 15% (Staudt 1996; Saint-Germain 1989), 20% (Thomas 1994), or as much as 30% (Dahlerup 1988). Extant research posits that one reason for this inconsistency is that there has been no comparison of the effects

of varying levels of women's representation across a large number of legislatures with varying proportions of female legislators. This chapter contributes to our understanding of the critical mass hypothesis by examining this relationship across many different levels of women's representation. This allows me to evaluate if there is a direct relationship between women's numeric representation and women's legislative behavior and if this relationship is dependent of women occupying some critical threshold.

Duration of Time

Another reason for lack of consensus in the literature may be that previous research does not adequately account for the possibility that the effect of gender quotas may not be realized immediately. Grey argues that most literature works under the "misconception" that gender quotas will have an immediate impact on substantive representation, when in reality, "time may be a crucial factor in gaining lasting change" (2006: 196). In other words, substantive representation will not be realized at once. One reason for this may be that gender quotas typically lead to a sudden increase in the number of women in office. It is likely that the majority of these women do not have legislative experience. Thus, they may want to promote women's interest but lack the skills necessary to do so (Franceschet and Krook 2008). It may take time for women to learn the institutional rules and norms. As women gain more experience in the legislature they will overcome institutional barriers and develop institutional knowledge that will better equipped them to work within the legislature to accomplish their goals. However, previous research has not empirically examined this relationship. It is likely that increases in the number of years since quota adoption increases the propensity for women to form

gender-based alliances, conditional on women occupying a significant proportion of legislative seats.[16]

> *Hypothesis 4: Conditional on woman holding a significant proportion of seats in the legislature, number years since quota adoption increases, the propensity for women to form gender-based alliances also increases.*

There are theoretical reasons to believe that as women move from token status to a minority group they will behave differently, however findings are inconsistent across samples and measures. Indeed, in my own empirical investigation, I find virtually no support for the hypothesis that increases in women's numeric representation has a direct effect on women's legislative behavior. Rather, I find that as the percentage of women in the legislature increases, women are *less* likely to work together. Why are women less likely to work together as their proportion of the legislature increases? I argue that one reason previous research has such incongruent findings is because it ignores the larger institutional context in which female legislatures function. The relationship between descriptive representation and substantive representation is conditional upon institutional incentives. In the section that follows I develop an alternative explanation that considers how institutions structure women's incentives to representation women. Then I offer an empirical test of both the direct relationship hypothesis and my alternative hypothesis.

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[16] Since not all quotas result in actual gains for women's numeric representation it is important to consider how the number of quota years impacts women's legislative behavior in those chambers that actually benefited from the adoption of quotas. Conflating the analysis of successful and unsuccessful gender quotas could bias the results in favor of the null hypothesis, particularly if increases in women's numeric representation influences women's legislative behavior.

Institutional Context

To better understand the relationship between descriptive and substantive representation it is necessary to consider how institutions shape legislators' incentives. I argue that women who were elected into chambers where women were not well represented faced significant election barriers, unlike women who were elected into chambers where women are well represented. This is based on the assumption that politics is largely viewed as a man's game. Men are the gatekeepers and determine who gets placed on the party ballot and where they will be placed. Since positions on the party ballot are limited men have little incentive to place women on the party ballot, because they would be replacing men with women. Thus, women who are interested in running have to make a credible claim that the party will benefit from their presence. Since women were largely absent from the political arena, one strategy is for women to capitalize on their gender identity to set themselves apart. By making a name for themselves within the party, as a candidate who represent women, an otherwise unrepresented constituency, women can improve their election prospects. Party leaders are more likely to believe that the party will benefit electorally from including a woman on the ballot. Thus, when women are not well represented in the legislature, women may be more likely to try to appeal to party leaders and constituents by representing women and issues that are typically viewed as women's issues.

However, when women are well represented in a legislative chamber, we should not expect the same outcome. This is because the obstacle is no longer a female facing entry barriers into a man's domain. Moreover, given that there are many women in the legislature, advertising one's self as a legislator who represents women, is no longer a

credible way to distinguish one's self from their copartisans. Thus, women elected into legislatures with many women will be less likely to represent women. Empirically, this explanation suggests that as the percentage of women in the legislature increases, women will work together at a decreasing rate. This is the exact opposite prediction of hypothesis 1.

Gender as an Electoral Barrier

I argue that the obstacles women faced, when elected in to a chamber where women are sparsely represented, created incentives for women to distinguish themselves from their copartisans in effort to boost their election prospects. Antidotal evidence from previous research illustrates this argument. After the transition to democracy in 1983, women faced significant obstacles in their efforts to obtain political office. According to Bonder and Nari (1995) most women who obtained office in Argentina prior to quotas had significant prior political experience and strong commitments to gender equality. Politically, these women had to be more ambitious than their male colleagues and they had to work harder to be elected. A common perception among Argentine women was that they had to be "more qualified then men to compete for the same positions" (Bonder and Nari 1995: 187). Given these electoral challenges, women sought to distinguish themselves from typical male politician. Women could (and often did) do this by exploiting their feminine image in society (Chaney 1979). Women viewed their work in politics as an extension of their work at home and often saw themselves as "tending the needs of [their] big family in the larger *casa* of the municipality or even nation" (Chaney 1979: 21). This maternal image gave women indubitable power within society. As a

result, in the rare cases that women did enter the political domain, they were most successful when they "emphasize the positive aspects of the womanly image" (Chaney 1979: 49). They could use their feminine image distinguish themselves from copartisans. One way to do this was to work with other women and establish a personal reputation for promoting distinct policy issues that are considered women's issues. Bonder and Mari report that female leaders realized that they could more easily achieve their goals and be more convincing in their policy initiatives if women worked together. As a result, early cohorts of women would have had strong incentives to organize alliances among women to work both within and across political parties to achieve their objectives.

On the contrary, women elected in chambers where women are well represented do not face the same challenges accessing political office. They do not have to prove that they are "more qualified" to gain office. When women are better represented on the party's ballot, women are less likely to feel like they have to compete against men to be placed on the ballot. Moreover, once they are in office they may have little incentive to build a personal reputation for themselves as a legislator who represents women. Rather, we can anticipate they will act more like the typical male politician. Bonder and Marcela (1995) explain that in Argentina, after the adoption of gender quotas, many women were placed on the list based on their ties to powerful men or their loyalty to male party leaders, not their previous political experience or their commitment to gender issues. As a result, one may expect that women elected under the quota law, are less likely to distinguish themselves as women or even as individual politicians. They would be no more likely to form alliances with other women in the legislature and no more likely to organize around gender specific issues than the average politician. However, this cannot

be generalized to all women who are elected in provinces that have adopted gender quota laws. This is because, some provinces adopted gender quotas only as a political gesture. They did not, however, enforce placement mandates or put women in positions on the list where they had the possibility of being elected. Since there is significant variation in the implementation and success of gender quotas, the argument cannot be generalized to the adoption of gender quotas. Rather, women's access to the ballot should be evaluated in terms of women's success obtaining office. Taken together, this argument suggests that where women are not well represented in office, they face significant barriers to election. Further, where women face significant barriers to office they are more likely to distinguish themselves from the typical male copartisan by working with other women on issues that are typically assumed to be women's issues.

Hypothesis 5: When female legislators were elected in chambers where gender is an electoral barrier, they are more likely to distinguish themselves from the typical copartisans.

Empirical Analysis

To evaluate these relationships, it is necessary to examine women's legislative behavior over a long temporal domain. Grey (2006) suggests that one of the primary shortcomings in previous research that wrestles with the critical mass question is the lack of legislatures that have "anything near 30% of women"—scholars often posit 30% is necessary for a critical mass. In recent years the gender composition of many legislatures has changed drastically, however this leaves us with a very short timeline to evaluate the effect of women's descriptive representation. As a result, I have chosen to evaluate the

above hypotheses using original legislator-level data from 23 Argentine provincial legislative chambers from 1992 to 2009. As the first country to adopt legislative gender quotas (in 1993 at the provincial level), Argentina is the only context that offers a long time line of gender quotas (over 15 years) and a large degree of variation in the initiation and success of quotas. In the 1990s all but four of the chambers in my sample adopted a gender quota of at least 30% (see Table 3.1). In 2000 three of these chambers increased their legislative quota to 50%. As a result, most of the chambers in my sample are composed of about 30% for several consecutive legislative sessions. Given the vast adoption of gender quotas at the sub-national level in Argentina, I can readily examine the effects of gender quotas on substantive representation across a large number of observations with different electoral systems while making controlled comparisons (e.g., holding many contextual, historical, and cultural variables constant that is impossible in cross-national analyses). To better understand how increases in women's descriptive representation influences women's legislative behavior, I analyze data from before and after the adoption and implementation of gender quotas. My analysis is based on data I collected during twelve months of fieldwork in Argentina. I visited twenty different provincial capitals where I conducted archival research and elite interviews to inform my research.

Table 3.1: Sample Selection for Descriptive Representation Analysis

District	Years in Sample	Chamber	District Type	Electoral Formula	Gender Quotas	Year Adopted	# of Seats
Federal District	1998-2009	Deputies	At Large District	PR	30%	1991	60
Buenos Aires	1992-2009	Senators	8 Multi Member Districts	PR	30%	1995	46
	1992-2009	Deputies	8 Multi Member Districts	PR	30%	1995	92
Chaco	1992-2009	Deputies	At Large District	PR	30%	1992	32
Chubut	1994-2009	Deputies	At Large District	PR	30%	1994	27
Córdoba	1992-2000	Senators	26 Multi-Member Districts	PR	30%	1994	67
	1992-2000	Deputies	At Large District	PR	30%	1994	26
Córdoba	2002-2009	Deputies	Mixed-Member	Plurality & PR	50%	1994	60
Corrientes	1992-2009	Senators	At Large District	PR	30%	1992	13
	1992-2009	Deputies	At Large District	PR	30%	1992	26
Entre Ríos	1992-2009	Deputies	At Large District	Fixed Allocation	No	--	28
Formosa	1996-2009	Deputies	At Large District	PR	30%	1995	30
Jujuy	1992-2009	Deputies	At Large District	PR	No	--	48
Mendoza	1992-2009	Senators	4 Multi-Member Districts	PR	30%	1992	38
	1992-2009	Deputies	4 Multi-Member Districts	PR	30%	1992	50
Misiones	1992-2009	Deputies	At Large District	PR	30%	1993	40
Río Negro	1996-2009	Deputies	Mixed Member	PR	50%	1993	46
Salta	1992-2009	Senators	23 Single-Member Districts	Plurality	No	--	23
	1992-2009	Deputies	23 Multi-Member Districts	PR	30%	1994	60
Santa Cruz	1992-2009	Deputies	Mixed-Member	PR	30%	1992	28
Santa Fe	1992-2009	Senators	19 Single Member Districts	Plurality	No	--	19
	1992-2009	Deputies	At Large District	PR	30%	1992	50
Tucumán	1992-2009	Deputies	3 Multi-Member Districts	PR	30%	1994	49

Dependent Variable: Gender Cosponsorship Score

When and where will women form gender-based alliances? There are several places where we may expect to find gender-based alliances within the legislature. For

example, some scholarship looks at informal voting coalitions among woman. However, it is difficult to tease out the effects of women voting together given their loyalties to political parties, thus roll-call votes rarely reveal such differences (Thomas 1994; Vega and Firestone 1995; Schwindt-Bayer and Corbetta 2004). Since party leaders controlled which bills come up for a vote, via negative agenda, it is rare that legislation gets to the floor that divides the party. Thus we would not expect to see women vote distinctly different than men.

Yet, scholars maintain that women have distinct legislative agendas (Swers 2005; Schwindt-Bayer 2006) and that understanding the collective behavior of women in legislatures (e.g., how they network with other women within the chamber (Francheschet and Piscopo 2008)) is important for understanding when and how women represent women (Beckwidth 2007; Vega and Firestone 1995). If women do have a unique legislative agenda a logical place we may expect to observe gender-based alliances is in the bill sponsorship process. More specifically, if women are forming gender-based alliances to pursue common legislative agendas, we can expect to see them frequently cosponsoring legislation together.

Legislators introduce and cosponsor legislation for a number of reasons, but the primary reason is credit claiming (Fenno 1978; Bratton and Haynie 1999; Crisp et al. 2004). It is a way for legislators to publicly express support for legislation, thus providing information about legislators' preferences. Moreover, cosponsorship highlights intra-party differences that are not otherwise apparent via roll call records or other more conventional measures (Alemán et al 2009), and it serves as a powerful network tool for political scientist to examine which legislators work together (Fowler 2005, 2006) and

under what conditions. Thus, if women are working together in informal groups to promote common interests this should be reflected in their cosponsorship patterns. I use cosponsorship data from each of the 23 provincial legislatures in my sample to assess the informal gender-based alliances that arise in legislative chambers.

I will examine how this dynamic changes as the gender composition of the legislature increases. It may seem obvious that as the percentage of women in the legislative chamber increases, women (and men) will naturally cosponsor legislation more with women. That is, even if the data generating process for cosponsorship were completely random, increasing the percentage of women in the legislature increases the probability that legislators will coauthor with other women. To account for this I measure my dependent variable as the difference between the rate at which each individual legislator coauthors with female legislators and the rate at which the legislator would coauthor with female legislators if the data generating process were completely random. I refer to this as the gender cosponsorship score (GCS). The GCS ranges from -.4167 to .9333. Negative (positive) values indicate that the individual legislator works with women less (more) than one would expect if the data generating process for cosponsorship were completely random, and a value of zero indicates that the legislature works with women at the same rate that one would expect if the cosponsorship process were completely random.

Additionally, hypothesis 3 suggests that when women are a token minority they will be more likely to toe the party line and less likely work with members from the opposition. As such, it may not be uncommon for women to work together with women from their own political party, however what would be unexpected is for women to work

together frequently with women from other political parties. To examine how likely women are to cross party lines to work with other female legislators I calculate the rate that women cosponsor with women outside their party minus the rate they would coauthor with women outside their party if the data generating process for cosponsorship were completely random. Finally, women may be more likely to form gender-based alliances to collaborate on legislation that is more likely to affect the lives of women. To account for this I identify a subset of issues and evaluate the dependent variable with respect to these issues for both of the aforementioned specifications. To identify issues that are more likely to affect the lives of women in Argentina, I rely on the United Nations Convention on the Elimination of All forms of Discrimination against Women country reports for Argentina and other supplemental material that directly pertain to this issue. Taken together, there are four specifications of the GCS: 1) rate that women cosponsor with other women, 2) rate that women cross party lines to cosponsor with other women, 3) rate that women cosponsor with other women on women's domain issues, and 4) rate that women cross party lines to cosponsor with other women on women's domain issues.

Independent Variables

To test hypothesis 1, 2, and 3, the main independent variable of interest is the percentage of women in the legislature. The theory suggests that the rate at which women coauthor with women is conditional on the gender composition of the legislature. That is, hypothesis 1 suggests that there will be a linear relationship between increases in the percentage of women in the chamber and their propensity to coauthor legislation

together. Hypothesis 2 posits that women will work less with women when they comprise a token position in the legislature and more with women when they comprise a minority. I control for the percentage of women in the chamber to account for the possibility of a linear relationship and the percentage squared to account for the possibility of a nonlinear relationship. I plot this relationship to examine if the function takes on a linear form or a nonlinear form. Then I include an interaction between the sex of the legislator and the percentage of women in the chamber as well as the percentage squared. The interaction allows me to examine if increases in women's numeric representation has an independent effect on women's legislative behavior.

Next, if there is a sudden change in the composition of the legislature, due to the adoption and implementation of a gender quota women's behavior may not change right away. That is, some scholars argue that time may be a crucial factor in bringing about change (Grey 2006). Therefore, I control for the number of quota years and the number of quota years squared. As before I include an interaction between the sex of the legislator and the quota year measurements. Additionally, I include a control for economic development for each province-year. I measure this using the province level infant mortality rate. I also control for gender development using the Gender Development Index for each province in 2006 (Programa de las Naciones Unidas para el Desarrollo 2010).

Table 3.2: Determinants of Gender Cosponsorship Score

	All Legislation		Women's Domain	
	(1)	(2)	(3)	(4)
	Whole Chamber	Other Party	Whole Chamber	Other Party
Female Legislator	0.028	0.046**	0.021	0.039
	(0.027)	(0.016)	(0.038)	(0.023)
% Women	-0.365*	-0.351***	-0.074	-0.330*
	(0.157)	(0.097)	(0.205)	(0.132)
(% Women)^2	0.798*	-0.009	0.179	-0.097
	(0.380)	(0.236)	(0.498)	(0.320)
% Women * Female	0.392	-0.009	0.874*	0.371
	(0.248)	(0.148)	(0.356)	(0.217)
(% Women)^2 * Female	-1.536**	-0.142	-2.660***	-1.088*
	(0.519)	(0.310)	(0.747)	(0.456)
Quota Years	0.004	-0.002	0.007	-0.001
	(0.003)	(0.002)	(0.004)	(0.003)
(Quota Years)^2	-0.000	0.000*	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years * Female	0.017***	0.002	0.019***	0.001
	(0.003)	(0.002)	(0.005)	(0.003)
(Quota Years)^2 * Female	-0.001***	-0.000	-0.001***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.000	-0.002**	0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
GDI	-0.220	-0.080	0.005	0.188
	(0.273)	(0.186)	(0.311)	(0.206)
Legislation Authored	-0.000	-0.000***	-0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.190	0.111	-0.011	-0.129
	(0.230)	(0.155)	(0.264)	(0.174)
Random-effects Parameters				
Province	-3.852***	-4.155***	-3.951***	-4.302***
	(0.264)	(0.224)	(0.402)	(0.348)
Year	-3.296***	-3.795***	-3.016***	-3.447***
	(0.081)	(0.078)	(0.087)	(0.084)
Residual	-1.953***	-2.468***	-1.638***	-2.133***
	(0.008)	(0.008)	(0.009)	(0.009)
Observations	7246	7246	6377	6377
Provinces	23	23	23	23
Legislative Sessions	181	181	181	181

*p<.05, **p<.01, ***p<.001. Coefficients from HLM. Standard errors in parentheses. Dependent variables are as follows: Model 1 rate that women cosponsor with other women chamber wide; Model 2 rate that women cosponsor with other women when working within their own party; Model 3 rate that women cosponsor with other women when working outside their party.

Given the nature of my data (i.e., legislators are nested within legislative sessions, which are nested within legislative chambers) I estimate this relationship using a

hierarchical linear model (Gelman and Hill 2007)[17]. I include a random intercept for each legislative session, to relax the assumption of independence of errors between the legislators in a given legislative session. I also include a random intercept for each legislative chamber to relax the assumption of independence of errors between legislative sessions in a given legislative chamber. My results are presented in Table 3.2.

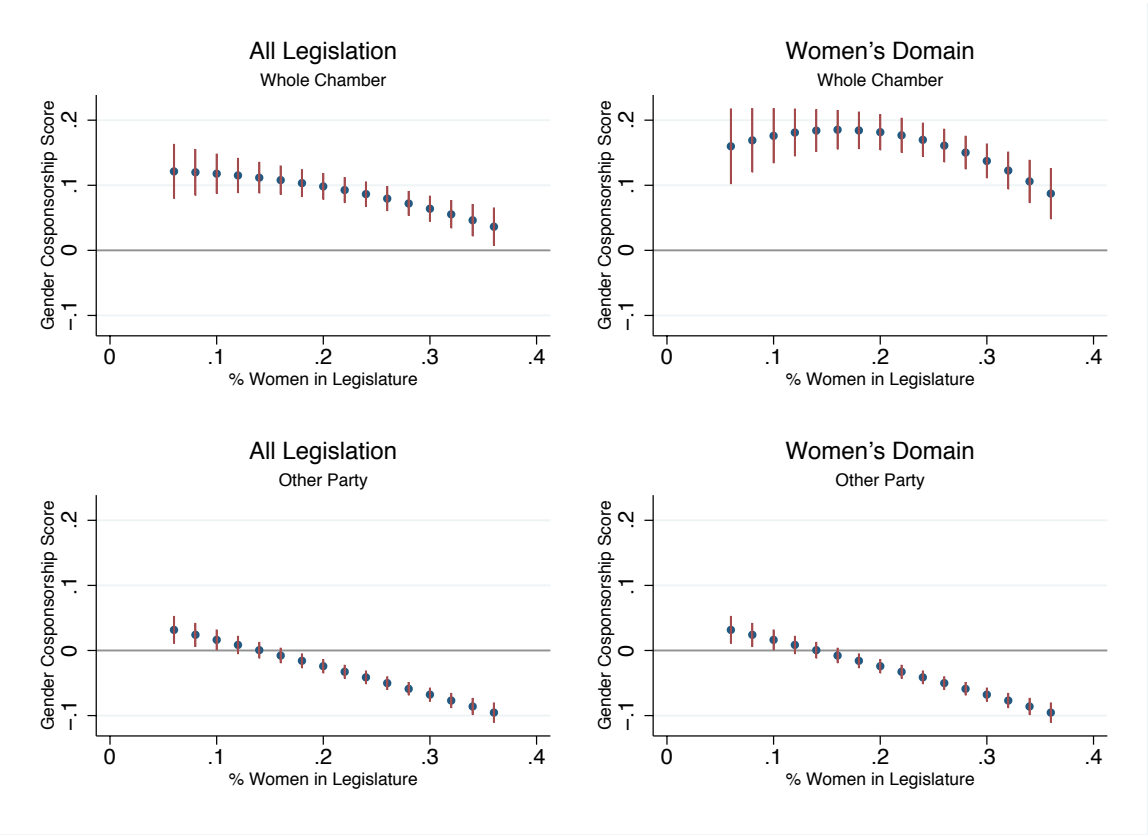
Findings

Given the difficult of interpreting interaction terms and squared functions I have graphed my results in Figures 3.1. Figure 3.1 plots the expected value of the GCS on the y-axis as the percentage of women in the legislative chamber increases across the x-axis. Recall, the GCS is the difference in the actual rate of cosponsorship and the random probability that a legislator will coauthor with a female. Thus, negative (positive) values suggest that legislators coauthor with female legislators at a lower (higher) rate then they would if the cosponsorship process were completely random. A value of zero indicates that female legislators are likely to cosponsor with their female colleagues at the same rate they would if cosponsorship were completely random.

The top left panel of Figure 3.1 indicates that women coauthor with women more than they would under random assignment when women comprise only a small proportion of the legislature. As the percentage of women in the legislature increases the rate of cosponsorship with female legislators decreases significantly. As the percentage of women approaches 30 percent of the legislature women are about as likely to work with women as they would if they were randomly selecting their cosponsors. This finding is

[17] My results are robust to estimations using province and year fixed effects and clustered standard errors. Additionally, the overall analysis is consistent with individual province-level analysis.

Figure 3.1: Change in Cosponsorship Score as the Percentage of Women in the Legislature Increases



This figure plots the expected value of gender women's cosponsorship score as the percentage of women in the legislature increases with 95% confidence intervals surrounding each estimate. Estimates are based on the HLM presented in Table 3.2.

the opposite of what hypothesis 1 suggest. Rather than women feeling less pressure to align with the dominant group as the proportion of women in the chamber increases, women actually respond by aligning with their male colleagues more frequently. Moreover, the plot of the line is linear, which suggests that there is not a critical threshold at which women change their legislative behavior. The top left panel in Figure 3.2 tells a similar story. In this plot the depended variable is restricted to women's domain legislation (Table 3.2 Model 3). The slope for this line is not as steep as the slope in the

top left panel, however it collaborates the finding that increases in women's numeric representation do not increase women's propensity to work together.

Hypothesis 3 posits that as women move from a small to large percentage in the legislature they will be more likely to cross party lines to work with female legislators outside their party. Models 2 and 4 examine the rate that women cross party lines to coauthor with female colleagues on all legislation and on women's domain legislation respectively. These results are graphed in the bottomed panel of Figure 3.1. Recall that in this analysis, the GCS is calculated as the rate at which women work with women outside their party, minus the rate they would coauthor with women outside their party if they were randomly selecting their coauthors. A value of zero indicates that women are crossing party lines to work with other women at the same rate that they would if they were randomly choosing their cosponsors. Given that legislators typically intentionally cosponsor with people outside the party *less* than they would if they were randomly choosing their cosponsors, a value of 0 is quite surprising. Both specifications of the GCS indicate that when women occupy a small proportion of the legislature they are more likely to cross party lines to cosponsor than if they were randomly choosing their cosponsors. This is surprisingly high, and offers strong support for the idea that women are intentionally seeking out female cosponsors from outside their party when women less than ten percent of the chamber. These models, however, indicate that regardless of whether women are working on women's domain legislation or a broader set of policy issues, they are less likely to cross party lines to work with women outside their party as the percentage of women in the legislative chamber increases. This analysis does not find support for Hypothesis 3. Rather, it appears that as the proportion of women in the

legislative chamber increases, women are less likely to cross party lines to collaborate with women outside their party, regardless of the issue domain.

The Adoption of Gender Quotas

Hypothesis 4 posits that conditional on woman holding a significant proportion of seats in the legislature, number years since quota adoption increases, the propensity for women to form gender-based alliances also increases. This hypothesis is based on the logic that increases in women's numeric representation will not be realized immediately, but as the amount of time increases that successful quotas are in place women are more likely to work together to achieve common goals. To test this hypothesis I use the same model as before, however this time I limit my analysis to legislative chambers with a significant proportion of female legislators and I include a count of successful gender quotas years in the place of quota years. Given that each of the gender quotas that were adopted in the Argentine provinces establish a 30% minimum for the positions women should occupy on the ballot, I defined a significant proportion of women as 20%. Given how the gender quotas interact with the different electoral systems in the provinces it is not realistic to expect all of the quotas to result in 30% women in the legislature. However, even in provinces with small districts if the quotas are being properly implemented (and women are not being simply placed at the bottom of the ballot) than women should occupy at least 20% of the chamber. These results are reported in Table 3.3 and graphed in Figure 3.2. Figure 3.2 is organized in the same way as before. The top panel graphs the expected value of the GCS for women chamber wide as the number of successful quota years increase, the bottom panel graphs the GCS for

crossing party lines to cosponsor with other women, the left panel looks at all legislation and the right panel looks at women's domain legislation. All figure specifications of the GCS reveal the same relationship. The number of successful quota years does not have a significant impact on women's legislative behavior under any of the four circumstances. It is clear from each of the graphs in Figure 3.2 that a flat horizontal line could be fitted across each of the plots and would cross the confidence bounds at each point in the plot. This indicates that women's legislative behavior is not statistically different at time *t* than it is at time *t+1*. This analysis does not provide support for hypothesis 4.

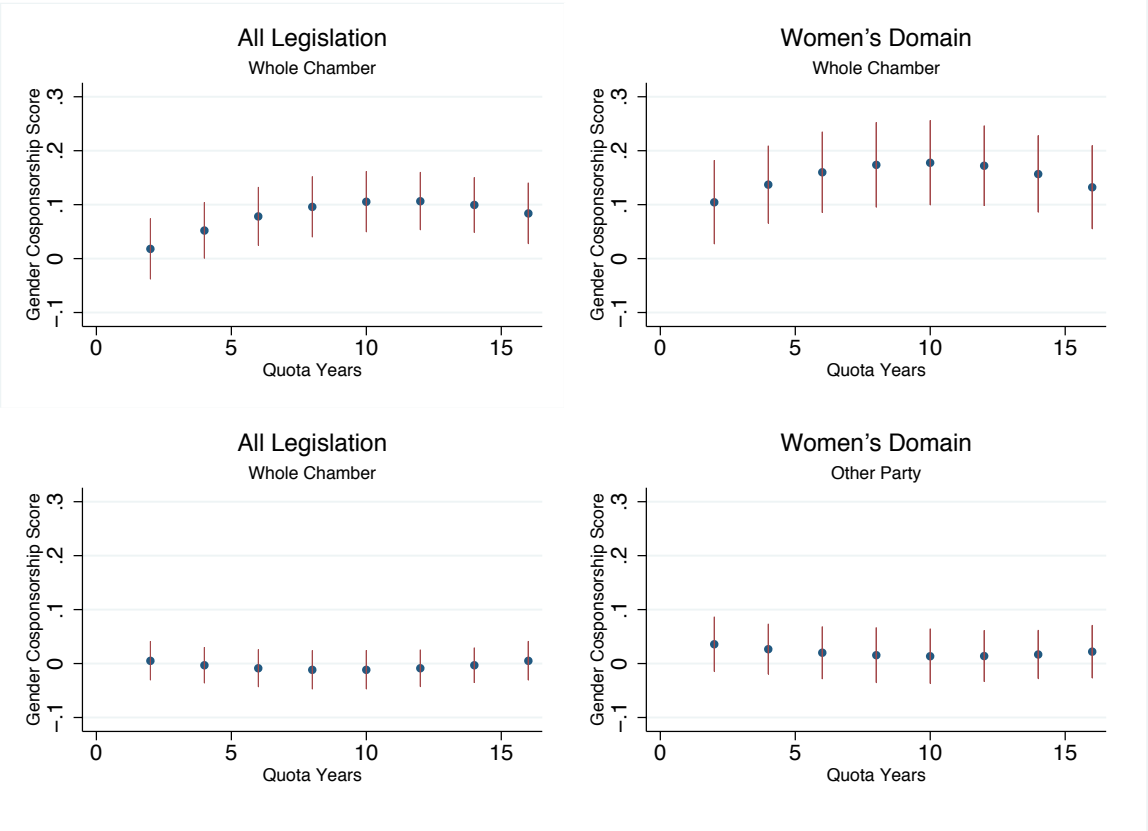
Despite the null findings, this analysis does serve an important purpose. It indicates that the findings in from the first analysis are due primarily to increases in women's numeric representation and not the adoption of gender quotas. At first glance, it may appear as though the findings from the first analysis (Table 3.2, Figure 3.1) could be the result of either increases in the proportion of female legislators or the adoption of gender quotas. This is because, if quotas are properly implemented that the proportion of female legislators should be highly correlated with the adoption of gender quotas. Nonetheless, due to the wide variety of electoral institutions and the enforcement and compliance with placement mandates, these two variables are not highly correlated in this sample (see Figure 3.1 in the introduction). This analysis serves to further alleviate any concern that the findings in Table 3.3 are a result of quota adoption and not increases in the proportion of female legislators.

Table 3.3: Gender Cosponsorship Score as the Number of Quota Years Increases, Conditional on a Significant Proportion of Female Legislators

	All Legislation		Women's Domain	
	(1)	(2)	(3)	(4)
	Whole Chamber	Other Party	Whole Chamber	Other Party
Female Legislator	0.114	0.244	-0.011	0.412*
	(0.198)	(0.126)	(0.281)	(0.181)
% Women	2.203	-0.592	1.341	-0.247
	(1.413)	(0.906)	(1.972)	(1.307)
(% Women)^2	-3.236	0.458	-1.895	-0.048
	(2.419)	(1.551)	(3.375)	(2.229)
% Women	-0.379	-1.229	1.249	-1.905
X Female	(1.406)	(0.894)	(2.000)	(1.290)
(% Women)^2	-0.456	1.848	-3.685	2.524
* Female	(2.376)	(1.511)	(3.383)	(2.182)
Quota Years	-0.005	-0.005	-0.001	-0.004
	(0.007)	(0.004)	(0.010)	(0.007)
(Quota Years)^2	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.000)
Quota Years	0.029***	-0.002	0.024*	-0.002
* Female	(0.007)	(0.005)	(0.010)	(0.006)
(Quota Years)2	-0.002***	-0.000	-0.001**	-0.000
* Female	(0.000)	(0.000)	(0.001)	(0.000)
Economic	0.002	-0.002	0.002	-0.001
	(0.002)	(0.001)	(0.003)	(0.002)
GDI	-0.002	-0.128	0.096	0.277
	(0.427)	(0.271)	(0.572)	(0.315)
Legislation Authored	-0.000*	-0.000***	-0.000	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.386	0.195	-0.322	-0.214
	(0.412)	(0.262)	(0.559)	(0.331)
Random-effects Parameters				
Province	-3.488***	-3.956***	-3.215***	-4.213***
	(0.300)	(0.321)	(0.333)	(0.625)
Year	-3.173***	-3.610***	-2.889***	-3.204***
	(0.122)	(0.117)	(0.129)	(0.121)
Residual	-1.857***	-2.309***	-1.566***	-2.004***
	(0.012)	(0.012)	(0.012)	(0.012)
Observations	3810	3810	3451	3451
Provinces	18	18	18	18
Legislative Sessions	88	88	88	88

*p<.05, **p<.01, ***p<.001. Coefficients from HLM. Standard errors in parentheses. Dependent variables are as follows: (5 & 6) rate that women cosponsor with other women chamber wide on all types of legislation; (7 & 8) rate that women cross party lines to cosponsor legislation with other women on all types of legislation; (9 & 10) rate that women cosponsor with other women chamber wide on Women's Domain legislation; (11 & 12) rate that women cross party lines to cosponsor legislation with other women on Women's Domain legislation.

Figure 3.2: Cosponsorship Rate with Female Coauthors: Legislators Elected Before the Adoption of Quotas or in the First Year of Implementation vs. Legislators elected After the Adoption of Quotas



This figure plots the expected value of gender women's cosponsorship score as the percentage of women in the legislature increases for chambers with gender quotas compared to chambers without gender quotas. 95% confidence intervals surround each estimate. Estimates are based on the HLM presented in Table 3.3.

Institutional Context

Hypothesis 5 posits that female legislators who are elected under hostile conditions (e.g., into legislature where women were not well represented) had to work harder to distinguish themselves from the typical copartisans in order to have electoral success. One way women can distinguish themselves from the typical copartisans is by forming alliances with other female legislators and promoting their image as women who

represent's women. Empirically this hypothesis implies that women will work together less as the percentage of women who gain electoral office increases. This relationship is investigated in Table 3.2. Recall, that Table 3.2 examines how increases in women's numeric representation influences women's legislative behavior. Figure 3.1, illustrates that where women occupy a small proportion of the legislative chamber they are more likely to work with other women on all types of legislative issues and they are more likely to cross party lines to do so. On face value, it appears as though this explanation could be useful in understanding how women's political behavior changes as the gender composition of the legislature changes. However, if it is the case that women work together more frequently with other women when they have institutional incentives to distinguish themselves from the typical copartisan, then there should be additional implications of this argument that allow me to test the empirical validity of the argument. In the following chapter I will develop additional implications of this argument and empirically examine the extent to which institutions influence women's legislative behavior.

Conclusions

This research suggests that scholars need to consider the broader institutional context when developing expectations for women's substantive representation. Previous research relies heavily on a behavioral explanation to inform our expectations of when descriptive representation will influence women's legislative behavior. Support for this relationship is inconsistent. In this chapter I offer an empirical test of the hypotheses the follow from the behavioral explanation and I do not find support for these hypotheses. I

offer an explanation for this inconsistency. I argue that our expectations for substantive representation should be conditioned by the institutional rules and norms that govern a given legislature. Different institutions provide different incentives for legislators. Thus, not all women have the same incentive to represent the female constituency.

In this chapter, I argue that women who were elected prior to the adoption of quotas faced significant electoral barriers. Electoral barriers created incentives for women to exploit their feminine image and distinguish themselves from male copartisans in effort to improve her electoral prospects. As a result these women were more likely their later cohorts of women to work with other women in the legislature. I find empirical support for this argument. Empirically, however, this hypothesis implies the exact opposite of the behavioral hypotheses. It suggests that women will work together less as the percentage of women who gain electoral office increases. If it is the case that electoral barriers shaped women's incentives and thereby their legislative behavior, other implications will follow that will allow me test the validity of this explanation. In the following chapters I will develop additional implications that follow from this theory and offer an empirical test of these implications to demonstrate further support for argument that institutional contexts shape women's legislative behavior.

Chapter 4

Women's Legislative Behavior and the Crucial Impact of Electoral Incentives

Women are underrepresented in virtually all of the world's legislatures. In the early nineties, there was a widespread call for national governments to take action to correct gender disparities at all levels of political representation. As a result, constitutional, electoral, or political party gender quotas have been adopted in almost 100 countries. Campaigns to adopt gender quotas are often mobilized and justified by the claim that increases in women's presence in the legislature will result in more attention to women's issues (Sawer 2000). While this claim makes for a successful mobilization tool, empirical investigations that examine the actual link between numeric representation and attention to women's issues result in mixed findings. Some scholars find a strong positive relationship between women's numeric representation and attention to women's issues, while other find no relationship. One possible reason for the lack of consensus in the literature regarding the impact of increases in numeric representation on women's legislative behavior is that not all women have the same institutional opportunity or electoral incentive to represent women's interests. Broadly speaking, electoral systems affect representatives' incentives to either enhance a personal reputation or exhibit party loyalty (Carey and Shugart 1995). It is likely that institutional incentives influence women's propensity and ability to represent women.

Consider, on the one hand, electoral systems in which voters vote for individual candidates as opposed to political parties. Since voters choose between politicians, individual candidates have strong incentives to distinguish themselves from their copartisans by cultivating their personal reputations in an effort to bolster their electoral

prospects (personalizing incentives). On the other hand, if voters choose between political parties, rather than individuals, candidates have an incentive to display strong party loyalty and enhance the party's reputation (party-centered incentives). This is because party leaders (not voters) determine which individuals will represent the party.

These different incentives fostered by different electoral systems mediate the link between women's numeric representation and women's ability to represent female constituencies (i.e., substantive representation). If we assume that legislators are rational actors who seek to enhance their political careers, then female legislators who are elected in districts that encourage them to develop their personal reputations may signal to voters that they stand for women in order to distinguish themselves from their male copartisans. As a result, women may be more inclined to champion women's issues or work with female colleagues. Conversely, legislators who are elected in districts that encourage party loyalty have no incentive to deviate from the party platform or to distinguish themselves from their copartisans. Therefore, women who are elected into these districts may be less likely to signal to voters that they represent women's interests. Instead, they are more likely to exhibit the same behavior and interests as their male colleagues in order to demonstrate their commitment to the party.

This argument provides a plausible explanation for how institutional incentives condition women's legislative behavior; however, this relationship is difficult to test empirically. To give this question proper treatment it is necessary to operationalize women's legislative behavior across a large number of legislative chambers that vary significantly in their types of electoral institutions and in their proportion of female legislators over a long period of time. The Argentine legislatures provide an ideal setting

for examining this question because they feature a large variety of electoral rules in combination with a long time span of both successful and unsuccessful gender quotas. For example, Argentine legislatures utilize at-large, mixed-member, and single-member electoral districts. These districts use of a variety of district magnitudes, ranging from very large and large district magnitudes, which produce strong party-centered incentives, to medium and small district magnitudes, which foster more personalizing incentives.

Therefore, I collect an original data set that measures individual-level legislative behavior for 23 Argentine legislative chambers from 1992 to 2009. I operationalize women's efforts to distinguish themselves from their male colleagues as their propensity to coauthor legislation with their female colleagues. Building on previous literature, I argue that cosponsorship is an important tool that legislators can use to signal to their colleagues and constituents who they represent (Crisp et al. 2004b). To do this, I collected a comprehensive database containing all coauthored legislation from each of the 23 legislative chambers in my sample.

I use this novel data set to demonstrate that women who are elected in electoral systems with personalizing incentives are overwhelmingly more likely to cooperate with female colleagues than male colleagues. By doing so, they signal to their colleagues and constituents that they are different from male copartisans and that they stand for women. Meanwhile, women who are elected in electoral systems with strong party-centered incentives cooperate with female colleagues at about the same rate we would expect if they were randomly selecting the sex of their coauthors, and they are much less likely to cross the party line to work with women from other parties. Instead, women from districts with strong party-centered incentives behave more like the typical male legislator. This

allows them to signal to party leaders that they are loyal party members. Using multiple specifications of the dependent variable, I demonstrate robust empirical support for my hypothesis. I then derive multiple implications for my argument that allow me to test the validity of my theory empirically. This research contributes to our understanding of how electoral incentives modify women's legislative behavior. Moreover, it illustrates that electoral institutions are important not only for determining if women get into office, but also how they behave once they are there.

Women's Representation

While there is a strong normative concern for electing representatives who reflect the demographics of a constituency, demands for increases in women's presence in the legislature extend far beyond the debate of equitable numeric representation. Campaigns to adopt gender quotas are often justified by the claim that increases in women presence in the legislature will result in more attention to women's issues (Karam and Lovenduski 2005; Krook 2009; Sawer 2000). There are many reasons to believe that increases in the number of representatives of historically marginalized groups will lead to increases in substantive representation of those groups (Mansbridge 1999; Phillips 1995; Weldon 2002; William 1998; Young 1990). This argument is based on the idea that historically marginalized groups have "overlooked interests" (Phillips 1995). Since many of these issues have not previously been part of the legislative agenda, they are often not fully articulated (Mansbridge 1999). Given the often-ambiguous nature of these issues, members of these groups (descriptive representatives) may be more likely and better suited to represent these interests. This may be because descriptive representatives are

more likely have shared life experiences that give them different perspectives on a broad set of issues (Phillips 1995; Mansbridge 1999). Alternatively, it may simply be because they are more likely to empathize with the group's concerns and take interest in learning about its welfare (Weldon 2002). This does not imply that all female legislators represent the same perspective, but that they represent a host of female perspectives that are distinct from their male colleagues (Piscopo 2011). Thus, many studies suggest that increases in women's descriptive representation will lead to increased attention to women's issues (substantive representation).

Numerous studies examine this relationship, but findings are inconsistent. Some research finds strong support for the hypothesis that increases in women's presence in the legislature leads to increased attention to women's issues, while other studies do not support this hypothesis. One likely reason for these inconsistent findings is that different institutions provide different incentives that shape legislators' behavior. Some institutions create incentives for legislators to distinguish themselves from their copartisans while other incentivize legislators to bolster the party's reputation and exhibit strong party loyalties. It is necessary to consider the institutional context in which legislators are elected to understand how they will behave once in office.

Research that focuses on legislatures known to foster strong personalizing incentives tends to find support for the hypothesis that increases in women's numeric representation results in substantive representation. For example, electoral systems in the US, the UK, and India are all known to promote personalizing incentives; and studies of these regions frequently find that women are more likely than men to represent women's issues (Bratton and Haynie 1999; Chattopadhyay and Duflo 2004; Childs 2002; Jones

1997; Saint-Germain 1989; Thomas 1991, 1994; Thomas and Welch 1991).[18] Some even conclude that increases in numeric representation are not necessary to induce increases in substantive representation. Even in small numbers, women are more likely to represent women's interests (Bratton 2005; Crowley 2004; Welch 1985).

Findings are less consistent with regard to cases in which women have strong party-centered incentives. For example, in Argentina, Jones (1997) and Schwindt-Bayer (2006, 2010) find that women place a higher priority on legislation involving women's rights and children and family issues. In Honduras, however, Taylor-Robinson and Heath (2003) find that this relationship does not hold for legislation concerning children and family. Still, Franceschet and Piscopo (2008) argue that increases in women's numeric representation in Argentina, via the adoption of gender quotas, have led to increased marginalization of women.

Gray (2002) examines women's support for 'women friendly policies' in New Zealand. She finds that in 1980 these policies received universal support from female MPs, but in 1998, when women occupied a larger share of seats in parliament, the proportion of women supporting this genera of legislation had decreased. She suggests that this unexpected relationship may be explained by the diversity of female MPs in 1998; however, it is also worth noting that in 1980 MPs were elected from single-member districts, which foster strong personalizing incentives. But in 1998, the vast majority of female MPs were elected from an at-large district with a closed list ballot, which cultivate strong party-centered incentives (Baker et al. 2001).

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[18]Research on the Swedish Parliament also supports this hypothesis. Swedish voters can choose between voting for the party and voting for individual candidates on the party list. Electoral systems that provide voters with the option to vote for specific candidates are also known to encourage legislators to develop a personal reputation.

Weldon (2002) also fails to find support for the relationship between women's numeric representation and the representation of women's interests. She draws on a large cross-national analysis (36 countries with a wide variety of electoral institutions) to examine governments' responses to violence against women. Her analysis finds no support for the hypothesis that greater proportions of women increase the probability that governments will address violence against women. Weldon concludes, "feminist policy scholars must examine whether political institutions facilitate or obstruct the articulation and enactment of policies addressing women's issues" (207). Electoral systems are an example of the type of institution that likely influences the articulation of women's interests.

Still, Kittilson (2008) finds that increases in women's numeric representation are highly correlated with adoption of family leave policies. Her research draws on 19 developed democracies that host a wide variety of electoral institutions covering the full range from personalizing to party-centered incentives. The variation between Kittilson's findings and those of other researchers may be explained by the fact that her analysis is unique in controlling for important institutional variation across legislatures, including federalism and disproportionality. Disproportionality is, in part, a product of the number of seats per district, one of the key types of electoral system variation that shapes legislators' incentives. Additionally, Kittilson's finding that federalism decreases the probability that national legislatures will adopt family leave policies suggests that understanding how institutions influence women's legislative behavior may be key to developing a more comprehensive understanding of how and when numeric representation will result in substantive representation.

The findings from previous research obviously cannot be explained by a cursory review of the institutional incentives that may have shaped women's political behavior in previous sample selections. Many other factors, including those discussed by the individual authors and those enumerated by other scholars, influence the variation in these findings; however, reviewing the patterns of findings in the context of electoral incentives can provide some insight regarding the conditions under which women are more likely to represent women's interests.

This research suggests that one reason for inconsistent findings in previous research may be that different institutions provide a different set of incentives that shape how legislators behave. It is necessary to consider the institutional context in which women are elected to understand how they behave in office. In the section that follows, I develop the logic behind how institutional incentives—shaped by electoral systems—may foster or quell the propensity for female legislators to distinguish themselves from their male colleagues, making them more or less likely to represent women.

Electoral Incentives

For decades, scholars of legislative politics have examined how electoral institutions structure legislators' incentives. It has been demonstrated that different electoral systems can cause representatives to behave in very different ways. It thus seems logical that these same electoral incentives should inform expectations about women's behavior in the legislature. In this section, I will examine how electoral institutions more generally are expected to influence legislators' behavior and how this informs our expectations about women's legislative behavior.

Electoral systems affect candidates' incentives to either enhance a personal reputation or bolster the party brand name (Carey and Shugart 1995). Two key components of electoral systems influence legislators' incentives: 1) list type (i.e., open or closed) and 2) the number of legislators elected in a given district (i.e., district magnitude). In general, previous research demonstrates that where voters cast votes for individual politicians (open list), representatives have an incentive to cultivate a personal vote. But when voters cast votes for political parties, rather than individuals (closed list), legislators have an incentive to enhance the party brand name. Moreover, the incentive for legislators to cultivate a personal vote increases with district magnitude in open list systems but decreases with district magnitude when lists are closed. Numerous studies demonstrate how these electoral incentives shape legislators' political behavior once in office (Ames 1995, 2001; Carey 1996; Cox and McCubbins 2001; Crisp et al. 2004a; Crisp et al. 2004b; Taylor 1992) and the personal vote-earning attributes that candidates exhibit in the campaign stage (Shugart, Valdini, and Suominen 2005).

Party-Centered Electoral Incentives

In closed list systems, party bosses are responsible for selecting candidates to run on the party ballot and determining the order in which names appear on the ballot. Rank-and-file members of the party do not have a strong influence in this process (DeLuca, Jones, and Tula 2002). Since the career prospects of individual legislators are determined by party leaders, and name recognition and popular support for the individual candidate do not have a strong bearing on candidates' legislative careers, these legislators have little incentive to promote legislation that increases their own public visibility, nor do they

have an incentive to distinguish themselves from their copartisans (Jones 2002). Rather, they have an incentive to promote the party brand name and display strong loyalty to the party leaders. These systems are known for cultivating party-centered incentives. This relationship varies significantly depending on district magnitude. When magnitude is sufficiently small, these electoral systems retain a significant number of personalizing incentives; these incentives decrease as district magnitude increases (Carey and Shugart 1995; Crisp et al. 2004a; Shugart, Valdini, and Suominen 2005).

Personalizing Electoral Incentives

In open list systems, voters decide between individual candidates. Legislators' electoral fates rest largely on their individual reputations. Voters tend to be familiar with the individual legislators who represent their district and they either reward or punish individual legislators depending on their legislative behavior. Since voters choose between individual candidates, and not political parties, the reputations of political parties are considerably less important (Cox and McCubbins 2001). Thus, legislators who are elected under this type of electoral institution have strong incentives to develop their individual reputations and distinguish themselves from their copartisans (Crisp et al. 2004a). Among other things, legislators try to enhance their personal reputations through advertising, credit claiming, and position taking (Mayhew 1974). However, as is also the case in a closed list system, district magnitude determines the extent of these incentives, only here magnitude has the opposite affect. In very small districts, party-centered incentives are subdued. As the size of the district increases, party-centered incentives grow. This is because as the number seats available in a district increases, the average

number of candidates from each party also increases. To be elected, candidates have to distinguish themselves from their copartisans. This requires them to rely more on individual reputation and less on party reputation.

In sum, list type (open or closed) and district magnitude affect legislators' incentives to cultivate a personal vote. When lists are closed, the incentives to cultivate a personal vote decrease as district magnitude increases. When lists are open, the incentives to cultivate a personal vote increase as district magnitude rises. When districts are small, legislators from both open and closed lists have similar incentives. However, as district magnitude increases their incentives become more and more divergent.

Institutional Incentives and Women's Representation

If we assume that all legislators are ambitious and seek to pursue a political career, then it follows that legislators will behave differently depending on the electoral systems in which they operate. Some legislators will strive to distinguish themselves from their copartisans, while others will endeavor to display strong party loyalties. Legislators who depend solely on their reputation with party leaders to further their careers have little incentive to promote their own legislative agenda or to coalition with other legislators who have similar policy positions. Rather they have an incentive to align with party' bosses and promote the party's interests. Conversely, legislators whose electoral fates depend—at least in part—on the representative's individual reputation, face personalizing incentives. They will aim to distinguish themselves from their copartisans and enhance their personal reputations.

Assuming that female legislators, like all other legislators, are ambitious politicians whose behavior is influenced by institutional incentives further implies that institutional incentives mediate the link between women's numeric representation and women's ability to represent female constituencies. In systems with strong party-centered electoral incentives, female legislators have little incentive to distinguish themselves from their male colleagues. This may mean that they are unlikely to champion their own legislative agenda, improve their public visibility, or ally with other females to promote their legislative interests. Instead, these women have an incentive to behave similarly to male colleagues in order to display their party loyalties.

Women who are elected in districts with personalizing incentives are encouraged to distinguish themselves from their copartisans and develop their own personal reputations. This suggests that women who are subject to personalizing incentives will be more likely to pursue activities that will aid them in differentiating themselves, such as championing separate legislative agenda and looking for opportunities to collaborate with like-minded colleagues. One way women can easily distinguish themselves from their typical copartisans is by signaling to their constituents that they stand for women. Moreover, for female legislators whose priorities differ from those of their male colleagues, personalizing incentives provide an opportunity to pursue those priorities. If it is the case that female legislators in districts with personalizing incentives either use their gender as a tool to distinguish themselves from their male copartisans or take advantage of the relative autonomy encouraged by their electoral system to pursue a more women-friendly policy agenda, then these women should behave significantly different from their

female counterparts in districts with strong party-centered incentives. Thus, I hypothesize the following.

> *Hypothesis 1: Women elected in legislatures with some personalizing incentives are more likely to use gender as a means to distinguish themselves from their male copartisans. Conversely, women who are elected into legislatures with strong party-centered electoral incentives are less likely to distinguish themselves along gender divisions.*

Conditional Relationship with Increases in Women's Representation

As discussed earlier, previous research suggests that there is a link between women's numeric representation in the legislature and the representation of women's interests. Many scholars have suggested, and tested the hypothesis, that as the proportion of women in the legislature increases, female representatives will be more likely to articulate women's interests and act on behalf of women; however, I argue that women's legislative behavior is influenced by institutional incentives. Specifically, women who are elected in institutions with personalizing incentives will be more likely to use gender as a means distinguish themselves from their male copartisans. Conversely women who are elected in districts with party-centered incentives will be unlikely to behave any differently from the typical male legislator. This argument suggests that party-centered electoral rules may mitigate the relationship between women's numeric representation and women's legislative behavior. If a relationship does exist, my argument implies that it is unlikely to emerge in electoral districts with strong-party centered incentives. It is

likely to be more pronounced where institutions encourage women to differentiate themselves. This implies the following hypothesis.

Hypothesis 2a: Conditional on personalizing incentives, female representatives are more likely to distinguish themselves along gender lines as the proportion of women in the legislature increases.

Conversely, increases in the proportion of women in the legislature may be negatively related to the representation of women's interests in districts with strong party-centered incentives. This is because in legislatures where women are not well represented, the party (and the female representative) may believe that it can increase its vote share by appealing to female voters. When women occupy only a few seats in the chamber, the party can send low-cost signals to female constituents that they represent their interests better than other political parties that do not have female legislators. Having female legislators act on behalf of women, or at least signal to voters that they represent women, may secure the party additional votes.

When women are numerically well represented in the legislature, however, it is more difficult for political parties to make a credible claim that they represent women and that other parties do not. If every party has a sizable proportion of female representatives (or, similarly, if every party is required to comply with a gender quota), female legislators are not a rare commodity that parties can simply use to signal to female voters that they represent their interests. Hence, from the party's perspective there is seemingly nothing to be gained from targeting female constituents. Each party can easily claim to represent women, with credible signals being more costly. Therefore, from a rational choice perspective, when the proportion of women in the legislature is small, female politicians

may signal to voters and party leaders that they represent women; yet, as the proportion of women in the legislature increases, and this signal becomes more and more costly, ambitious female politicians may try to appear as though they are first and foremost party loyalists. Similarly, party leaders have a stronger incentive to recruit and select women who view themselves as party loyalists. As a result, once women make sizable gains in the legislature, we may expect that female legislators with party-centered electoral incentives will be even less likely to behave differently from their male copartisans. This implies the following hypothesis.

> *Hypothesis 2b: Conditional on party-centered incentives, as the percentage of women in the legislature increases, women will be less likely to distinguish themselves from their male copartisans.*

Empirical Investigation

Sample Selection

This argument provides a plausible theory for how institutional incentives mediate the link between women's descriptive representation and women's legislative behavior. Although many scholars have posited that it is important to consider institutions to understand this relationship, few existing research designs can adequately evaluate this relationship. This is because previous research designs are typically limited to a single legislature or a small number of legislatures. To evaluate this relationship, it is necessary to have a significant number of legislative chambers that vary in both institutional incentives and the proportion of female legislators. I have therefore chosen to study women's legislative behavior at the subnational level in Argentina. To do this I collected an original data set that allows me to evaluate women's legislative behavior over a long

temporal domain (18 years) for a large number of legislative chambers (23), which vary with respect to the proportion of women in the legislature and electoral incentives (see Table 4.1).

Table 4.1: Sample Selection 23 Argentine Legislative Chambers

District	Years in Sample	Chamber	District Type	Electoral Formula	Gender Quotas	Year Adopted	# of Seats
Federal District	1998-2009	Deputies	At Large District	PR	30%	1991	60
Buenos Aires	1992-2009	Senators	8 Multi Member Districts	PR	30%	1995	46
	1992-2009	Deputies	8 Multi Member Districts	PR	30%	1995	92
Chaco	1992-2009	Deputies	At Large District	PR	30%	1992	32
Chubut	1994-2009	Deputies	At Large District	PR	30%	1994	27
Córdoba	1992-2000	Senators	26 Multi-Member Districts	PR	30%	1994	67
	1992-2000	Deputies	At Large District	PR	30%	1994	26
Córdoba	2002-2009	Deputies	Mixed-Member	Plurality & PR	50%	1994	60
Corrientes	1992-2009	Senators	At Large District	PR	30%	1992	13
	1992-2009	Deputies	At Large District	PR	30%	1992	26
Entre Ríos	1992-2009	Deputies	At Large District	Fixed Allocation	No	--	28
Formosa	1996-2009	Deputies	At Large District	PR	30%	1995	30
Jujuy	1992-2009	Deputies	At Large District	PR	No	--	48
Mendoza	1992-2009	Senators	4 Multi-Member Districts	PR	30%	1992	38
	1992-2009	Deputies	4 Multi-Member Districts	PR	30%	1992	50
Misiones	1992-2009	Deputies	At Large District	PR	30%	1993	40
Río Negro	1996-2009	Deputies	Mixed Member	PR	50%	1993	46
Salta	1992-2009	Senators	23 Single-Member Districts	Plurality	No	--	23
	1992-2009	Deputies	23 Multi-Member Districts	PR	30%	1994	60
Santa Cruz	1992-2009	Deputies	Mixed-Member	PR	30%	1992	28
Santa Fe	1992-2009	Senators	19 Single Member Districts	Plurality	No	--	19
	1992-2009	Deputies	At Large District	PR	30%	1992	50
Tucumán	1992-2009	Deputies	3 Multi-Member Districts	PR	30%	1994	49

As the first country to adopt legislative gender quotas (in 1993 at the provincial level), Argentina is the only context in the world that offers a long time line for such quotas (over 15 years) and a large degree of variation in the initiation and success of quotas. In the 1990s, all but four of the chambers in my sample adopted a gender quota of at least 30%. In 2000 three of these chambers increased their legislative quota to 50%. As a result, most of the chambers in my sample have a small proportion of women in the legislature prior to quota adoption and a sizeable proportion of women for several consecutive legislative sessions after the adoption of quotas.

Moreover, there is significant variation in the electoral institutions in place in each of these legislatures. Several of the legislatures use at-large districts with closed lists to elect representatives. These systems are known to create strong party-centered incentives, which I argue will discourage women from exhibiting behavior that differs from their male copartisans. Other electoral systems in Argentina use small or medium district with closed lists. These systems maintain sizeable personalizing incentives (Shugart, Valdini and Suominen 2005), which I argue may encourage women do distinguish themselves from male colleagues. This variation in electoral systems, combined with both cross-sectional and temporal variation in the proportion of female legislators, provides an excellent opportunity to compare how electoral incentives shape women's legislative behavior.

Dependent Variable: Gender Cosponsorship Score

This paper argues that under certain conditions female legislators will have an incentive to distinguish themselves from their male copartisans. There are many ways in

which legislators can attempt to distinguish themselves and cultivate personal reputations. For example, legislatures often use bill sponsorship and cosponsorship as a credit-claiming opportunity (Fenno 1978). The legislators with whom legislators cosponsor may be just as important as the legislation that they cosponsor. Crisp et al. explain, "constituents gain information about the legislator's position not only from the content of the bill but also from the legislator(s) with whom it is cosponsored" (2004b: 704). Legislators can use cosponsorship activity to forge informal legislative coalitions that will send signals to their colleagues and constituents about their legislative positions and priorities.

If female legislators have incentives to distinguish themselves from their copartisans and if they use their gender as a means to do so, it is likely that these women will form cosponsorship coalitions with other female legislators. But if female legislators have little incentive to distinguish themselves from their copartisans, they are unlikely to coauthor frequently with female colleagues. I thus examine the rate at which legislators cosponsor with their female colleagues to gauge whether legislative incentives have a distinct impact on women's legislative behavior.

It may seem obvious that as the percentage of women in the legislative chamber increases, women (and men) will naturally cosponsor legislation more with women than with men. That is, even if the data-generating process for cosponsorship were completely random, increasing the percentage of women in the legislature increases the probability that legislators will coauthor with other women. To account for this increased probability, I measure my dependent variable as the difference between the rate at which each individual legislator coauthors with female legislators and the rate at which the legislator

would coauthor with female legislators if the data-generating process were completely random[19]. In general, we can think of the dependent variable as the Cosponsorship Score. As a result, negative (positive) values of the Cosponsorship Score indicate that the individual legislator works with women less (more) than one would expect if the data generating process for cosponsorship were completely random, and a value of zero indicates that the legislature works with women at the same rate that one would expect if the cosponsorship process were completely random.

I utilize four separate specifications of the dependent variable: 1) cooperation with all women on all legislative issues; 2) cooperation with women outside their political party on all legislative issues; 3) cooperation with all women on women's domain issues; 4) cooperation with women outside the political party on women's domain issues. The first specification of the dependent variable allows me to evaluate the general patterns of activities in the legislative chamber. Specifications two through four provide a more nuanced understanding of when women cooperate and provide additional insights into why they behave as they do.

To examine cooperation with women outside the political party I calculate the rate at which women coauthor with women outside their party with respect to their coauthor activity with all other legislators in the chamber, minus the rate that they would coauthor with women outside the party if the data generating process were completely random.

[19]I present findings for this specification of the dependent variable; however I should note that the findings are robust to several specifications of the dependent variable. These include models in which the dependent variable is specified as a count variable, the actual rate of cosponsorship, and a dyadic analysis, the last of which examines the probability that each legislator-dyad coauthors legislation together.

To assess if women behave differently when they are working on issues that are traditionally believed to be in the "women's domain," To identify issues that are more likely to affect the lives of women in Argentina, I rely on the United Nations Convention on the Elimination of All forms of Discrimination against Women country reports for Argentina and other supplemental material that directly pertain to this issue. I calculate the rate of cosponsorship with female legislators on women's domain issues for the whole chamber and for women in the other political party.

Personalizing Incentives versus Party-Centered Incentives

This paper argues that women's political behavior will be influenced by institutional incentives. Specifically, I hypothesize that women who are subject to some personalizing incentives are more likely to use gender as a means to distinguish themselves from their male copartisans than are women who are subject to strong party-centered incentives. In this paper, I operationalize electoral institutions with some personalizing incentives as closed list systems with small and medium district magnitudes (i.e., a district magnitude ranging from 1 to 9). I operationalize electoral systems with strong party-centered incentives as closed and blocked list systems with large district magnitudes (i.e., a district magnitude of 10 or larger). This coding decision is based on logic presented in previous research.

First, in closed list proportional representation systems as the district magnitude increases, party-centered incentives displace personalizing incentives (Carey and Shugart 1995). At the one extreme, single-member districts foster strong personalizing incentives. At the other extreme, large district magnitudes cultivate strong party-centered incentives.

Although there is no exact district magnitude at which party-centered incentives displace personalizing incentives, previous research provides insight into what sizes of district have strong party-centered incentives and what sizes of district retain personalizing incentives.

Carey and Hix (2011) argue that voters' cognitive ability to distinguish between different alternatives in elections declines gradually in low magnitude districts and then sharply drops off as the number of alternatives increases. They explain that voters in small to medium districts (i.e., 1 to 9) have clear preferences over alternatives and familiarity with candidates competing in their districts. They posit that voters in large districts (i.e., magnitude of 10 or higher) are unlikely to have clear preferences regarding their alternatives.

Shurgat Valdini and Suominen (2005) provide empirical evidence that candidates competing in small to moderate districts (in their research a district magnitude of 12 or smaller) in closed list systems are no less likely to benefit from some personal vote-earning attributes than are candidates in the same sized district with open lists. It is clear from this research that legislators elected in small and medium districts have more incentive to distinguish themselves and cultivate a degree of personal recognition among voters. For these reasons, I code districts with a magnitude of nine or smaller as small to medium districts, and districts with a magnitude of 10 or larger as large districts. Therefore, my hypothesis would suggest that women who are elected in small and medium districts are more likely to distinguish themselves from their male colleagues than are female legislators who are elected in large districts.

Women's Numeric Representation

Hypotheses 2a and 2b posit that the relationship between descriptive representation and women's propensity to distinguish themselves from their male colleagues is conditional on institutional incentives. First, in order to judge if women behave differently from men, I control for the sex of the legislature. This is coded 1 for female legislators and 0 otherwise. Second, in order to assess the effect of descriptive representation, I control for the percentage of women in the chamber and the percentage squared. Additionally, given that changes in the proportion of women in the legislature are typically brought about by the adoption of legislative quotas, I control for the number of quota years and the number of quota years squared. I also include an interaction between the sex of the legislator and each of these measures to evaluate if changes in women's numeric representation influence women's behavior.

Control Variables

It is reasonable to believe that women who represent urban and/or economically developed districts may behave very differently from women who represent rural and/or economically depressed areas. I include a control for economic development for each province-year. I measure this using the province-level infant mortality rate. I also control for social inequalities between men and women in a given province. It is possible that women behave differently in provinces with higher levels of gender equality. I measure this using the Gender-Related Development Index (GDI). GDI accounts for gender

disparities in life expectancy rates, adult literacy rates, and standards of living. The greater the gender disparity is, the lower the country's GDI score.[20]

Estimation Technique

Given the nature of my data (i.e., legislators are nested within legislative sessions, which are nested within legislative chambers), I estimate this relationship using a hierarchical linear model (Gelman and Hill 2007).[21] I include a random intercept for each legislative session, to relax the assumption of independence of errors between the legislators in a given legislative session. I also include a random intercept for each legislative chamber to relax the assumption of independence of errors between legislative sessions in a given legislative chamber. I analyze two different sets of models. First, I estimate models to consider how institutional incentives impact women's legislative behavior. Then, I estimate a full model to evaluate how increases in women's descriptive representation influence women's legislative behavior conditional on institutional incentives.

To evaluate the hypothesis that women will behave differently depending on the institutional context, I analyze two subsamples of data. The first subsample includes

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[20]In addition to controlling for these variables, it is important to note that economic development in my sample varies significantly across district sizes. That is, some of the least developed provinces and the most developed provinces use at-large districts. This makes my data unique because district magnitude is typically highly correlated with development. Indeed, this same analysis could not be done using variation in the Argentine national government because large districts are only used in the most developed provinces. Moreover, my results are robust to model specifications that exclude Buenos Aires and the Federal District (i.e., the two most developed districts, both of which host large district magnitudes).

[21]My results are robust to estimations using province and year fixed effects and clustered standard errors. Additionally, the overall analysis is consistent with individual province-level analysis.

legislators who were elected in small to medium districts (magnitude 1 to 9), and the second subsample considers large districts (magnitude 10 to 60). Analyzing subsamples of my data is analogous to using a fully interactive model. These two different specifications will yield the same results; however, analyzing subsamples in my data has one advantage in that it facilitates the interpretation of the results. Given that it is not possible to directly interpret coefficients from an interactive model, this approach will allow the reader to interpret the results more easily.

Results

In the tables below I provide estimates for the coefficients and standard errors for the multi-level models. The signs of the coefficient on "female" accurately reflect the impact that a legislator's sex has on the probability of coauthoring with a female colleague. It is clear from these models that women coauthor more frequently with female colleagues than do men; however, these findings suggests that the magnitude of this relationship is conditional on the institutional incentives fostered by the electoral institutions and on the composition of the legislature. It is difficult to evaluate the total impact of these factors by examining the coefficients. With this difficult in mind, I graph the substantive effects for hypothesis 1 and 2 respectively for each of the specifications of the dependent variable in Figures 4.1.

Table 4.2: The Impact of Institutional Incentives on Women's Cosponsorship Score

	All Legislation				Women's Domain			
	Whole Chamber		Other Party		Whole Chamber		Other Party	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Small Districts	Large Districts	Small Districts	Large Districts	Small Districts	Large Districts	Small Districts	Large Districts
Female	0.103***	0.045***	0.056***	0.028***	0.152***	0.069***	0.085***	0.041***
	(0.008)	(0.005)	(0.005)	(0.003)	(0.012)	(0.007)	(0.007)	(0.004)
Economic	-0.000	0.003***	-0.001	0.003**	0.001	0.004***	-0.001	0.003**
Development	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
GDI	0.003	0.118	-0.262	0.330	0.145	0.420	-0.183	0.613*
	(0.465)	(0.526)	(0.337)	(0.289)	(0.655)	(0.463)	(0.375)	(0.304)
Constant	0.007	-0.187	0.230	-0.389	-0.097	-0.455	0.190	-0.620*
	(0.375)	(0.423)	(0.275)	(0.237)	(0.529)	(0.373)	(0.309)	(0.251)
Random-effects Parameters								
Province	-3.928***	-3.504***	-3.615***	-3.831***	-3.592***	-3.759***	-3.635***	-3.954***
	(0.421)	(0.256)	(0.292)	(0.290)	(0.459)	(0.318)	(0.379)	(0.415)
Year	-3.183***	-3.838***	-3.326***	-3.236***	-2.905***	-3.636***	-3.105***	-3.075***
	(0.111)	(0.134)	(0.107)	(0.078)	(0.124)	(0.160)	(0.115)	(0.084)
Residual	-2.001***	-2.445***	-1.926***	-2.474***	-1.614***	-2.076***	-1.651***	-2.163***
	(0.014)	(0.014)	(0.011)	(0.011)	(0.015)	(0.015)	(0.011)	(0.011)
Observations	2643	2643	4603	4603	2284	2284	4093	4093
Provinces	12	20	12	20	12	20	12	20
Sessions	87	152	87	152	87	152	87	152

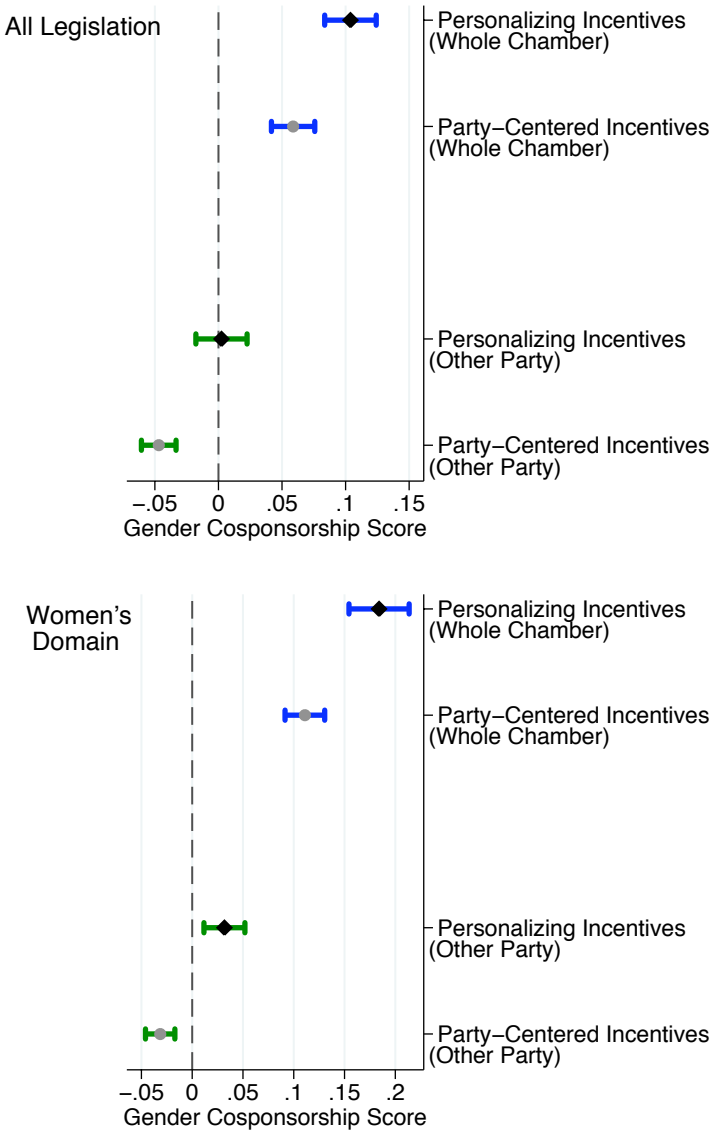
*p<.05, **p<.01, ***p<.001. Coefficients from HLM. Standard errors in parentheses.

The Effects of Institutional Incentives

Figure 4.1 compares the expected rate of cosponsorship with female colleagues for the four different specifications of the dependent variable. The x-axis specifies the rate of cosponsorship and the y-axis delineates the different specifications of the dependent variable. Recall that the Cosponsorship Score is the difference in the actual rate of cosponsorship and the random probability that a legislator will coauthor with a female. Thus, negative (positive) values suggest that legislators coauthor with female legislators at a lower (higher) rate then they would if the cosponsorship process were completely random. A value of zero indicates that female legislators are likely to

Figure 4.1: The Impact of Institutional Incentives on Women's Gender Cosponsorship Score

This graph shows that women with personalizing incentives are more likely to coauthor with female legislators than are their female colleagues with party-centered incentives, providing support for Hypothesis 1.



This figure plots the expected value of women's gender cosponsorship score given different institutional incentives. Each estimate is surrounded by 95% confidence intervals. Estimates are based on the HLM presented in Table 4.2.

Recall that the *gender cosponsorship score* is the rate that legislators coauthor with their female colleagues minus the rate that they would coauthor with other women if the data-generating process for coauthoring were completely random. Negative (positive) values indicate that the legislator works with women less (more) than one would if the data generating process for cosponsorship were completely random. A value of zero indicates that the legislature works with women at the same rate that one would if the cosponsorship process were completely random.

cosponsor with their female colleagues at the same rate at which they would if cosponsorship were completely random. The top two expected values in the first panel in Figure 4.2 depict the expected rate of cosponsorship with female colleagues for women in districts with personalizing incentives and for women in districts with party-centered incentives. It is clear from this figure that women in districts with personalizing incentives cosponsor with female colleagues at a higher rate than do women in districts with party-centered incentives.

It may not seem surprising that women work more with women, on average, than they do with men, particularly if we assume that most cosponsorship activity takes place between copartisans. This result may only indicate that women work more with women within their own party than with men in their own political party. Coauthoring with women from the same political party at a higher rate than men may not be a strong signal that women are trying to distinguish themselves from their male copartisans. But, it would be unexpected if women were working frequently with women from the other parties. Working with women from the opposition party may even be viewed as disloyal, particularly in legislatures that are known for their strong party discipline.

Models 3 and 4 examine this relationship. In these models the dependent variable is the rate at which women work with women outside of their party compared to the rate that they work with all other legislators in the chamber. In other words, Models 3 and 4 evaluate how frequently women cross party lines to work with other women. Model 3 illustrates that woman from electoral districts with personalizing incentives coauthor with women at the same rate at which they would if they were randomly choosing their coauthors. This is unexpectedly high. Under normal circumstances, it seems that

representatives would intentionally coauthor less with their colleagues from other parties; yet, this finding indicates that women who have an incentive to distinguish themselves from their copartisans cross party lines relatively frequently.

Women who have an incentive to distinguish themselves from copartisans are more likely to work with female colleagues. Conversely, women who have strong incentives to please their party bosses are more likely to look for male coauthors. The theory suggests that this is because women who face personalizing incentives may use gender as a tool to set themselves apart from their copartisans in their district. But women who face party-centered incentives are more likely to behave like the typical male politician in order to demonstrate their party loyalty. If this is the case, women who are confronted with personalizing incentives may be more likely to coauthor with other women when they are working on issues traditionally believed to be of particular interests to women. Working with other women on women's issues would be the best way to signal to constituents that they stand for women. Women who are subject to party-centered incentives would be unlikely to change their behavior if they are working on issues in this area.

The bottom panel in Figure 4.1, labeled "women's domain," graphs these findings. Figure 4.1 illustrates that a similar pattern persists in women's domain legislation. Women from districts with personalizing incentives are more likely to work with other women than are their female counterparts in large districts. Women from small districts are even more likely to cross party lines to work with female colleagues when they are working on women's domain issues, whereas women from large districts are still

less likely to work with women from the other party than they would be if the cosponsorship process were completely random.

Overall, the data presents unified evidence that women who are subject to personalizing incentives may be more likely to use gender as a tool to distinguish themselves from their male colleagues. Meanwhile, women from districts with party-centered incentives are more likely to behave similarly to their male colleagues. This suggests that incentives created by electoral institutions may provide important insights into the relationship between women's descriptive representation and substantive representation. The next section examines this relationship in more detail.

The Effects of Gender Composition Conditional on Institutional Incentives

Figure 4.2 plots the expected value of women's cosponsorship rate on the y-axis as the percentage of women in the legislative chamber increases across the x-axis. As before, I have evaluated this relationship across multiple specifications of the dependent variable. Specifically, I examined women's propensity to work with other women in the whole legislative chamber and their tendency to cross party lines to work with women from the other party. I considered this relationship for both the full sample of legislation and legislation in the "women's domain."

The top panel of Figure 4.2 indicates that when women comprise a small portion of the legislature, all women, regardless of their district type, are likely to work with other women frequently; yet, as the percentage of women in the legislative chamber increases, the probability that women with party-centered incentives will work with other women begins to decrease. Once women comprise approximately 30% of the legislature,

women are no more likely to work with other women than if cosponsorship were a completely random process. Women from districts with personalizing incentives behave differently. As the percentage of women in the legislature increases, these women are more likely to work with other women in the legislature[22].

The same pattern is present when examining legislation that deals directly with women's issues. The pattern is more pronounced under this specification of the dependent variable. While, women from districts with party-centered incentives are no more likely to work with female colleagues, women from districts with personalizing incentives are much more likely to work with female colleagues. This indicates that women from districts with personalizing incentives may be using cosponsorship as an opportunity to distinguish themselves from their male colleagues. By working with women on women's issues, women can signal to their constituents and party bosses that they represent a constituency that is not well represented.

The bottom panel in Figure 4.2 examines patterns of cosponsorship with women outside the party. A similar trend exists for both specifications of the dependent variable, providing additional support for Hypotheses 2a and 2b. The alternative specification indicates that women from large districts are quite unlikely to work with other women outside their political party. As the percentage of women in the legislature increases this relationship becomes more pronounced. This indicates that when women are numerically well represented in the legislature, political parties may place less value on signaling to

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[22] I noted in the introduction that one of the advantages to examining this question in the context of the Argentine provinces it that unlike most high magnitude districts, the district magnitude in the Argentine provinces is not highly correlated with urbanicity or development. The results reported in Appendix B show that these findings are robust to the exclusion of the largest legislative chambers (which are also typically in the most developed provinces with the biggest urban centers).

female constituents that the party represents women's interests. This is likely because when women are represented in all political parties, it is difficult for one party to signal that it represents female constituents better than other political parties.

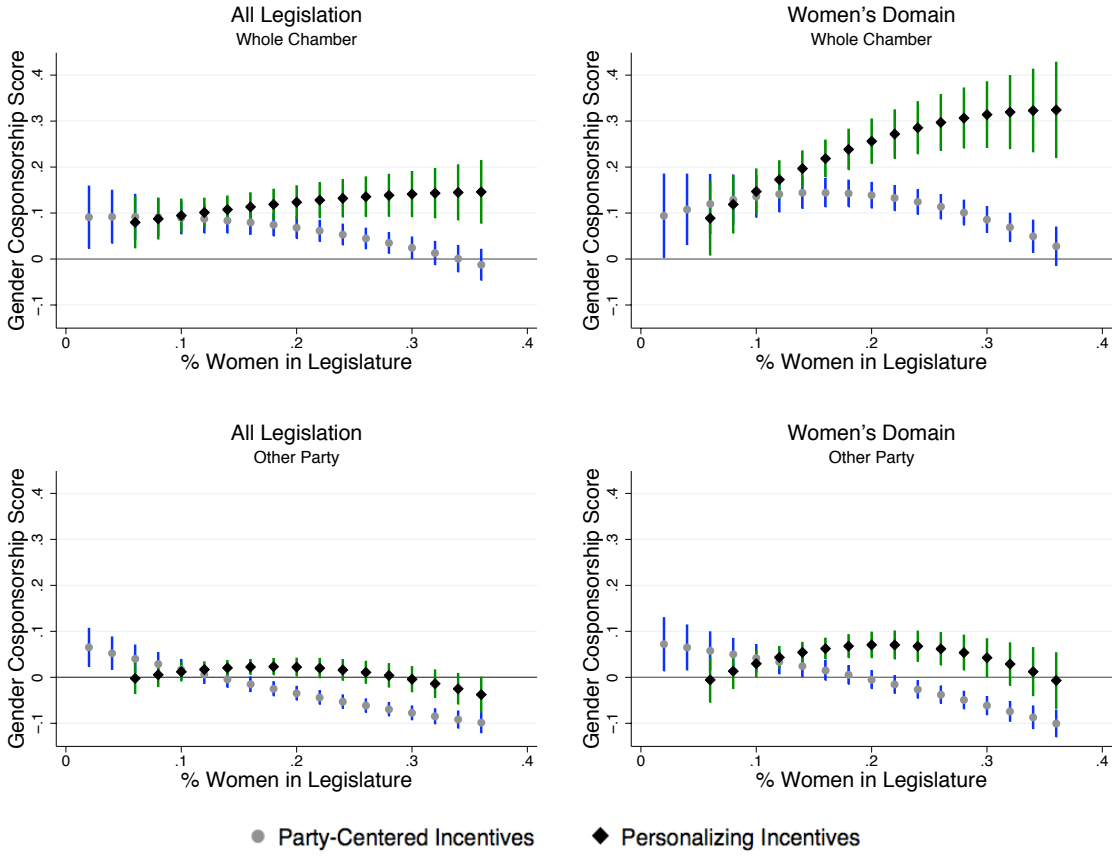
For women in small districts, they cross party lines quite frequently to coauthor with female colleagues. However, this relationship does not change as the proportion of females in the legislature increases. These women are just as likely to establish cross-partisan consensus with female colleagues in effort to represent common interests regardless of the proportion of women it the legislature. Taken together, these results provide support for the hypothesis that increases in the proportion of women in the legislature will strengthen women's incentives to toe the party line in party-centered institutions and (under some conditions) to differentiate themselves when institutions create personalizing incentives. Thereby providing additional support for the hypothesis that institutional incentives shape women's legislative behavior in distinct ways.

Table 4.3: Explaining Women's Cosponsorship Score as the Proportion of Women in the Legislature Increases, Conditional on Institutional Incentives

	All Legislation				Women's Domain			
	Whole Chamber		Other Party		Whole Chamber		Other Party	
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Small Districts	Large Districts	Small Districts	Large Districts	Small Districts	Large Districts	Small Districts	Large Districts
Female	0.012	0.023	-0.027	0.071***	-0.030	0.018	-0.068	0.077**
	(0.044)	(0.035)	(0.028)	(0.020)	(0.068)	(0.048)	(0.043)	(0.029)
% Women	-0.503*	-0.272	-0.280*	-0.365*	-0.456	0.186	-0.291	-0.254
	(0.253)	(0.210)	(0.122)	(0.143)	(0.328)	(0.265)	(0.169)	(0.189)
(% Women)^2	0.633	0.678	-0.195	0.026	1.244	-0.366	-0.156	-0.297
	(0.623)	(0.494)	(0.302)	(0.335)	(0.822)	(0.623)	(0.424)	(0.445)
% Women X Female	0.968*	0.390	0.932**	-0.287	2.319**	0.670	1.726***	-0.062
	(0.487)	(0.308)	(0.310)	(0.179)	(0.758)	(0.427)	(0.474)	(0.258)
(% Women)^2 X Female	-1.214	-1.789**	-1.637*	0.422	-3.810*	-2.402**	-3.269**	-0.204
	(1.063)	(0.636)	(0.675)	(0.371)	(1.681)	(0.882)	(1.050)	(0.532)
Quota Years	0.012*	0.001	0.001	-0.005	0.019**	0.000	0.004	-0.004
	(0.005)	(0.004)	(0.002)	(0.003)	(0.006)	(0.005)	(0.003)	(0.003)
(Quota Years)2	-0.000	0.000	-0.000	0.000*	-0.001**	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years X Female	-0.003	0.021***	-0.005	0.002	-0.018	0.026***	-0.009	0.003
	(0.006)	(0.004)	(0.004)	(0.002)	(0.010)	(0.006)	(0.006)	(0.003)
(Quota Years)2 X Female	-0.000	-0.001***	0.000	-0.000	0.000	-0.002***	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Economic	0.001	0.001	-0.001	-0.001	0.003	0.001	0.001	-0.001
Development	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
GDI	-0.575	-0.058	-0.181	-0.128	-0.235	0.131	0.060	0.205
	(0.556)	(0.346)	(0.226)	(0.225)	(0.597)	(0.375)	(0.267)	(0.286)
Constant	0.470	0.046	0.165	0.139	0.158	-0.132	-0.068	-0.148
	(0.449)	(0.294)	(0.183)	(0.193)	(0.483)	(0.324)	(0.217)	(0.245)
Random-effects Parameters								
Province	-3.765***	-3.697***	-4.964***	-4.192***	-4.111***	-3.856***	-22.366*	-4.014***
	(0.412)	(0.318)	(0.820)	(0.356)	(0.920)	(0.495)	(9.558)	(0.384)
Year	-3.224***	-3.322***	-4.120***	-3.604***	-3.003***	-3.111***	-3.811***	-3.365***
	(0.117)	(0.107)	(0.170)	(0.091)	(0.138)	(0.115)	(0.186)	(0.098)
Residual	-2.005***	-1.931***	-2.447***	-2.474***	-1.617***	-1.655***	-2.079***	-2.164***
	(0.014)	(0.011)	(0.014)	(0.011)	(0.015)	(0.011)	(0.021)	(0.011)
Observations	2643	4603	2643	4603	2284	4093	2284	4093
Provinces	12	20	12	20	12	20	12	20
Sessions	87	152	87	152	87	152	87	152

*p<.05, **p<.01, ***p<.001. Coefficients from HLM. Standard errors in parentheses.

Figure 4.2: Explaining Women's Gender Cosponsorship Score as the Proportion of Women in the Legislature Increases, Conditional on Institutional Incentives
These plots show that as the percentage of women in the legislative chamber increases, female legislators with personalizing incentives are more likely to coauthor with their female colleagues and female legislators with party-centered incentives are less likely to coauthor with female colleagues. This supports Hypotheses 2a and 2b



This figure plots the expected value of women's gender cosponsorship score as the proportion of women in the legislature increases. Each estimate is surrounded by 95% confidence intervals. Estimates are based on the HLM presented in Table 4.3.

Recall that the *gender cosponsorship score* is the rate that legislators coauthor with their female colleagues minus the rate that they would coauthor with other women if the data-generating process for coauthoring were completely random. Negative (positive) values indicate that the legislator works with women less (more) than one would if the data generating process for cosponsorship were completely random. A value of zero indicates that the legislature works with women at the same rate that one would if the cosponsorship process were completely random.

Additional Implications and Empirical Test

If it is the case that women who are elected into districts with more personalizing incentives are likely use their gender as a way to distinguish themselves from male copartisans, there should be additional implications that will allow me to evaluate the validity of this argument empirically. That is, other incentive structures, not limited to institutional incentives, should also compel women to distinguish themselves from their male copartisans. To further assess the validity of my argument, I develop and empirically test three additional implications.

First, in Argentina, some provinces use closed party lists of candidates to elect legislators while others use party sublists. Where legislators are elected only by closed party list, there is no intra-party competition. This is because each party provides a single list and voters choose between parties. In elections with party sublists, however, each party can provide multiple lists. Where multiple lists compete against one another under the same party name, party cues are no longer sufficient for the voter to distinguish between alternatives. In these cases, legislators must distinguish themselves from other parties as well as from other lists competing under the same party name. As a result, deputies competing in elections with party sublists have a stronger incentive to bolster their own personal reputations (Crisp et al. 2004a). This implies that if women who have personalizing incentives use gender differences to distinguish themselves from their copartisans, then women who are elected in districts utilizing party sublists will be more likely to coauthor with female colleagues than women who are elected in simple closed list systems.

Second, inter-branch relations also shape legislators' incentives. In presidential systems, the executive has a strong incentive to cultivate a positive reputation for the party and has all of the tools necessary to do so. For example, the executive typically has the power to structure the legislative agenda by introducing legislation, defining the legislature's priorities, and even declaring decrees. When the executive is largely responsible for the party's reputation, as is the case in the Argentine provinces, legislators are free to spend more time cultivating their own reputations (Crisp et al. 2004a; Nielson and Shugart 1999; Shugart 2001; Shugart and Carey 1992). This implies that women who are elected into the governor's party are more likely to cultivate their personal reputations than are women who are elected into opposition parties.

Finally, electoral incentives should be most pronounced for legislators who have political ambition. If legislators do not intend to pursue a political career, then they should not be subject to the incentives created by electoral systems. This implies that women who have some personalizing incentives and who have political ambition will be more likely to coauthor with female legislators than women who are elected in the same electoral system but do not have political ambition. I will test the following three hypotheses to evaluate the validity of my argument.

> *Hypothesis 3a: Women elected in districts with party sublists are more likely to distinguish themselves from male copartisans than women elected in districts with single party lists.*
>
> *Hypothesis 3b: Women who are members of the governor's party are more likely to distinguish themselves from male copartisans than women who are not members of the governor's party.*

Hypothesis 3c: Women with political ambitions are more likely to distinguish themselves from male copartisans than women who are not politically ambitious.

Empirical Analysis of Additional Implications

To evaluate these hypotheses, I examine how women elected into small districts (those with some personalizing incentives) behave differently under each of the aforementioned conditions. Employing the same estimation technique as before, I first compare districts with sublists to districts without sublists, then members of the governor's party to members outside the governor's party, and finally legislators with political ambitions to those without political ambitions. I operationalize politically ambitious legislators as those who serve more than one term in office. This term can come before or after the current term. Given that I only observe whether legislators actually serve a second term and not whether they run for reelection or move to another political post, this is a conservative measure of political ambition, which will potentially bias the results in favor of the null hypothesis.

The results are reported in Table 4.4 and Figure 4.3. The top panel in Figure 4.3 graphs the rate at which women in small and medium districts coauthor with other women depending on the type of electoral list used to select candidates. First, it is important to note that this figure indicates that all women, regardless of their list type, are more likely to coauthor with female colleagues than they would be if they were randomly choosing their coauthors. This is consistent with evidence from earlier analysis that women from small and medium districts work more with female colleagues than with male colleagues. Second, this graph distinguishes between the behavior of women elected

using party sublists and women elected in systems with single party lists. As hypothesized, the top panel in Figure 4.3 illustrates that women elected in districts with party sublist are more likely to distinguish themselves from their male colleagues.

The second panel in Figure 4.3 provides additional support for the theory by illustrating how women who are members of the governor's party behave differently from women who are not members of the governor's party. Since the governor is largely responsible for promoting the party brand name, members of the governor's party can focus more on establishing their own personal reputations among their constituents. My results suggest that women do this by working more with female colleagues to become known as representatives who stand for women.

Finally, the third panel in Figure 4.3 exemplifies the relationship between ambitious politicians and non-ambitious politicians. Previous literature suggests that institutional incentives are more likely to shape the behavior of ambitious legislators since they value reelection. Although my measure of political ambition is a conservative estimate, this research demonstrates that ambitious female politicians in districts with personalizing incentives are more likely to distinguish themselves from their male colleagues by cooperating with female colleagues.

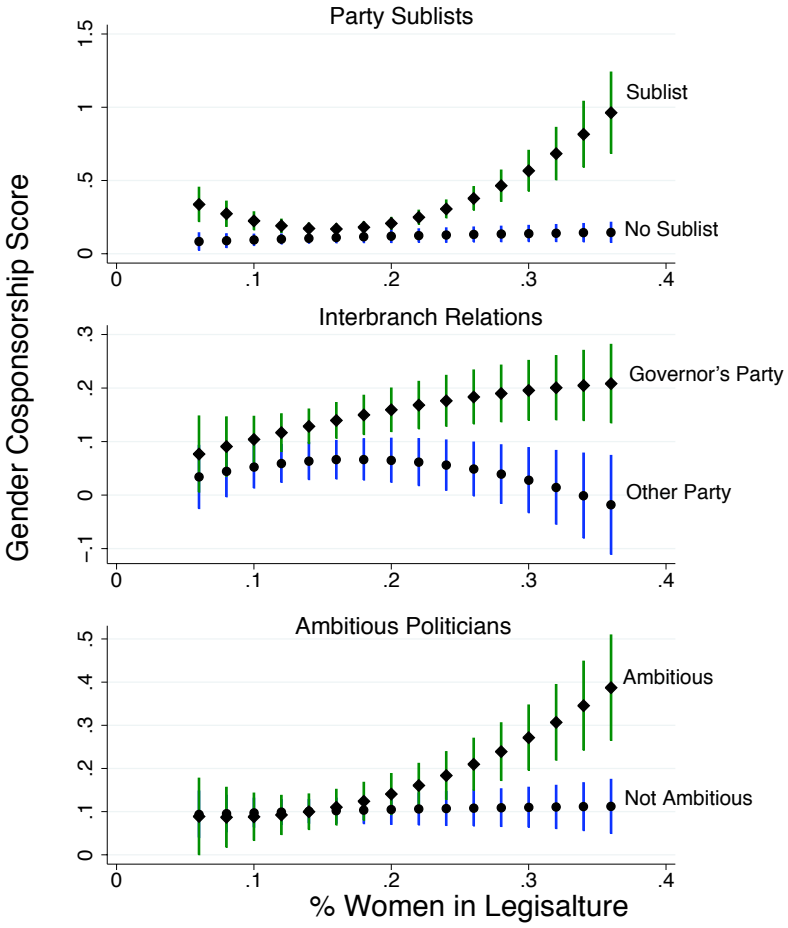
These analyses demonstrate that legislative context plays an important role in shaping women's legislative behavior. These findings suggest that women do use their gender as a means to establish a personal reputation. By coauthoring with other female representatives, women can signal to their constituents and party bosses that they are legislators who stand for women.

Table 4.4: Explaining Women's Cosponsorship Score as the Proportion of Women in the Legislature Increases for multiple Legislative Contexts

	Whole Chamber		Whole Chamber		Whole Chamber	
	(11)	(12)	(13)	(14)	(15)	(16)
	Party SubList	No SubList	Governors Party	Other Party	Ambitious	Not Ambitious
Female	0.491***	0.013	-0.002	-0.060	-0.001	0.058
	(0.134)	(0.050)	(0.066)	(0.058)	(0.087)	(0.052)
% Women	0.207	-0.687	-0.329	-0.709*	-0.785*	-0.477
	(0.317)	(0.395)	(0.323)	(0.354)	(0.311)	(0.282)
(% Women)^2	-1.859	1.121	0.157	1.509	1.292	0.809
	(1.055)	(0.865)	(0.797)	(0.870)	(0.792)	(0.696)
% Women	-6.026***	1.027	1.166	1.577*	0.142	0.585
X Female	(1.625)	(0.593)	(0.742)	(0.623)	(0.981)	(0.571)
(% Women)^2	20.681***	-1.433	-1.106	-3.989**	2.606	-0.921
X Female	(4.549)	(1.249)	(1.538)	(1.484)	(2.280)	(1.229)
Quota Years	0.019**	0.013	0.010	0.013	0.015*	0.011*
	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)	(0.005)
(Quota Years)2	-0.001**	-0.001	-0.000	-0.001	-0.001	-0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	0.051***	-0.006	-0.004	-0.001	0.018	-0.005
X Female	(0.013)	(0.009)	(0.010)	(0.008)	(0.014)	(0.007)
(Quota Years)2	-0.007***	-0.000	-0.000	-0.000	-0.002*	-0.000
X Female	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
Economic	-0.003	0.003	0.002	-0.000	-0.001	0.001
Development	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
GDI	-0.149	-0.849	-0.503	-0.624	-1.585**	-0.211
	(0.639)	(0.716)	(0.653)	(0.786)	(0.597)	(0.588)
Constant	0.156	0.662	0.384	0.522	1.326**	0.174
	(0.537)	(0.574)	(0.528)	(0.632)	(0.484)	(0.474)
Random-effects Parameters						
Province	-19.284	-3.444***	-3.746***	-3.472***	-3.955***	-3.751***
	(1629.930)	(0.373)	(0.528)	(0.406)	(0.558)	(0.432)
Year	-3.942***	-3.204***	-2.951***	-3.041***	-3.250***	-3.219***
	(0.424)	(0.142)	(0.128)	(0.134)	(0.172)	(0.140)
Residual	-2.193***	-1.963***	-1.970***	-2.139***	-2.006***	-2.009***
	(0.029)	(0.016)	(0.019)	(0.022)	(0.024)	(0.018)
Observations	620	2023	1528	1115	962	1681
Provinces	12	20	12	20	12	20
Sessions	87	152	87	152	87	152

*p<.05, **p<.01, ***p<.001. Coefficients from HLM. Standard errors in parentheses.

Figure 4.3: Explaining Women's Gender Cosponsorship Score as the Proportion of Women in the Legislature Increases for multiple Legislative Contexts
This graph shows that women who are elected using party sublists, women who are members of the governor's party, and women who are ambitious politicians are more likely to coauthor with female colleagues compared to women in other legislative contexts. These findings provide support for Hypotheses 3a, 3b, and 3c.



This figure plots the expected value of women's gender cosponsorship score as the proportion of women in the legislature increases. Each estimate is surrounded by 95% confidence intervals. Estimates are based on the HLM presented in Table 4.4.

Recall that the *gender cosponsorship score* is the rate that legislators coauthor with their female colleagues minus the rate that they would coauthor with other women if the data-generating process for coauthoring were completely random. Negative (positive) values indicate that the legislator works with women less (more) than one would if the data generating process for cosponsorship were completely random. A value of zero indicates that the legislature works with women at the same rate that one would if the cosponsorship process were completely random.

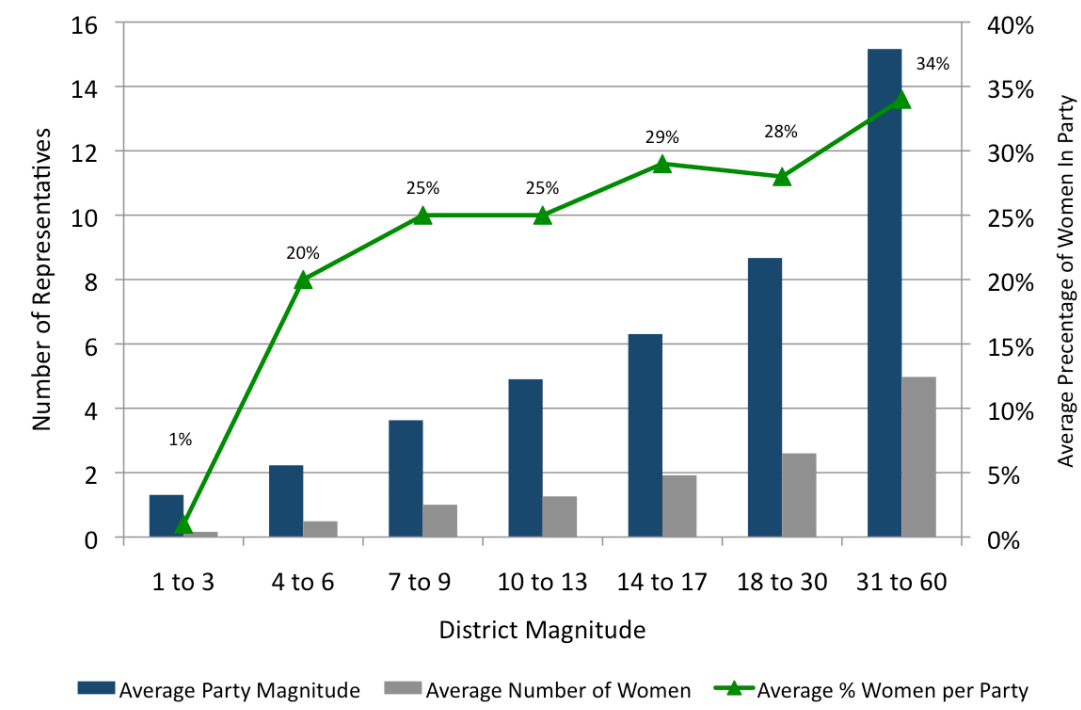
Implications for Women's Representation

The findings from this research have some interesting implications for how scholars think about institutional designs that maximize women's representation. Although we have developed a clear understanding of how institutions can maximize women's descriptive representation, we know less about the institutional designs that maximize women's substantive representation. This research contributes to our understanding of how institutional design influences women's legislative behavior, which has clear implications for how and when women will represent women's interests. But these findings imply that institutional mechanisms that are best for increasing women's descriptive representation are not completely compatible with the goal of maximizing women's substantive representation. This is because the implementation of gender quotas is the most immediate way to increase descriptive representation of women (Htun and Jones 2002; Norris 2004). Quotas are most effective when they combine placement mandates and closed-list proportional representation systems with large district magnitudes (Caul 1999; Larserud and Taphorn 2007; Jones 2009). That said, these types of electoral institutions foster strong party-centered incentives, which may discorage women's substantive representation.

Findings from this research demonstrate that women elected in districts with strong party-centered incentives are unlikely to behave differently from male colleagues. This suggests that women in these districts may be discouraged from representing women's interests. Institutional incentives in these districts discourage women from pursuing an independent legislative agenda, building their own reputations or even behaving differently than the typical male legislator. These implications are consistent

with expectations developed in previous literature, which suggests that strong party-centered electoral rules are more likely to result in the marginalization of women (Goetz and Hassim 2003; Machulay 2006; Schwindt-Bayer 2010; Tinker 2004; Tripp 2006; Vincent 2004). This does not mean that women elected in systems with party-centered incentives will not stand for women, indeed, women may work from within the party to accomplish similar goals. The research does however, suggests that a different mechanism is at work in party-centered incentives.

Figure 4.4: District Magnitude, Party Magnitude and the Election of Women



My results demonstrate that women who are elected in legislative districts that preserve some personalizing incentives are likely to distinguish themselves from their male colleagues. This implies that women who face personalizing incentives may be more likely to ally with other women to represent women's substantive interests. As these

women are not discouraged from behaving differently from their male colleagues, they can pursue their own legislative agenda and cooperate with like-minded women more freely. With few exceptions, however, women are seldom elected in legislatures that foster strong personalizing incentives (Thames and Williams 2010). This suggests that electoral systems that promote the descriptive representation of women do not promote the substantive representation of women. Findings from this article also imply that there may be a sweet spot. That is, in closed-list systems, there is likely an optimal district magnitude that is large enough to still elect a large proportion of women but small enough to preserve some personalizing incentives.

I have already made the case that small and medium size districts (magnitude from 1 to 9) are small enough to preserve some personalizing incentives. This idea is articulated in previous research (e.g., Carey and Hix 2011; Shugart, Valdini, and Suominen 2005) and the findings in this present research provide further support for this relationship. Still, the question remains: are these districts large enough to advance the election of women?

We can examine this question by looking at some basic descriptive statistics from my sample selection. Figure 4.4 illustrates how increases in the average district magnitude are related to: 1) increases in the average party magnitude (i.e., the number of seats in a given district held by the same party); and 2) increases in the average percentage of women elected into systems with closed-list with a 30% gender quota. First, with respect to party magnitude, Figure 4.4 illustrates that as the district magnitude increases, so to does the average party magnitude. In districts with a magnitude between 7 and 9, the party magnitude is on average between 3 and 4. Similarly, in larger districts

with a magnitude between 10 and 13, the average party magnitude is between 4 and 5. This relationship is important for the election of women into office. Given that gender quotas in the Argentine provinces require that women occupy at least one of every three seats, and political parties typically only meet the minimum quota requirement, women fare no better in districts with a magnitude of 10 to 13 than they do in systems with slightly smaller districts with a magnitude of 7 to 9.

This pattern is consistent with the expectations developed in the literature. The logic developed by Jones (2009) implies that the optimum party magnitude for women in systems in which gender quotas mandate that women must occupy one of every three positions on the party list is a multiple of 3. This is because when the party magnitude is three (or 6 or 9), the minimum percentage of seats a woman can occupy is 30%. If the party magnitude is less than three, there is some likelihood that women will not occupy any seats in the legislature. But once the party magnitude is 4 or 5, women can potentially occupy as few as 20% of the seats in the legislature. Given this logic, it is evident that the proportion of women elected in a district is not likely to increase if the district moves from an average party magnitude of three to a party magnitude of nine. Moreover, the figure illustrates that as district sizes increases past a district magnitude of nine, the probability of electing more women to office increases at a decreasing rate. This implies that medium-sized districts are large enough to facilitate the election of women. Taken together, these findings suggest that medium-sized districts in closed-list districts may be optimal for maximizing *both* women's descriptive representation *and* women's substantive representation. This is because they are large enough to promote the election of women but small enough to preserve some personalizing incentives.

Conclusions

Scholars of political representation are keenly interested in understanding when the interests of under-represented groups will receive attention from government leaders. Previous research often hypothesizes that electing representatives from marginalized groups in society will increase the probability that their interests are represented. Findings for this hypothesis are mixed, however. Some research supports the idea that increases in descriptive representation will result in increased substantive representation, while others find no relationship. This paper offers an explanation for these inconsistencies. I argue that expectations for substantive representation should be conditioned by the institutional rules and norms that govern a given legislature. Different institutions provide different incentives for legislators. With respect to women, this implies that not all female legislators have the same institutional incentives and opportunities to represent women's interests. With respect to electoral systems, some institutions create incentives for legislators to distinguish themselves from their copartisans, while other institutions encourage legislators to toe the party line and exhibit strong party loyalty. I argue that legislators from under-represented groups are likely to behave differently depending on the types of institution used to elect them. For example, women who are elected in an institutional context that encourage legislators to display strong party loyalty and discourage legislators from cultivating a personal reputation are unlikely to behave any differently from their male colleagues. Rather, we would expect to see women, like men, toeing the party line and representing the party platform. But women who are elected in institutions with strong personalizing incentives are

encouraged to distinguish themselves from their colleagues. As a result, they may be inclined to use their gender as a means to differentiate themselves from their male colleagues. Generally speaking, I hypothesize that some institutions encourage women to behave differently from their male colleagues while others encourage them to behave similarly.

Using an original data set, I test this hypothesis across 23 legislatures, which host a variety of electoral systems. I find strong empirical support for the hypothesis that institutions shape women's legislative behavior. I additionally find that institutions mediate the link between increases in the proportion of female legislators and women's legislative behavior. Specifically, I show that increases in the proportion of women in the legislature strengthen women's incentives to toe the party line in party-centered institutions and to differentiate themselves when institutions create personalizing incentives.

The legislative behavior of women elected in districts with party-centered incentives compared to that of their colleagues in districts with personalizing incentives is even more distinct when I consider cosponsorship patterns for legislation that is typically considered to be in the women's domain. By working with female colleagues on women's issues, representatives who face personalizing incentives can signal to their constituents and party bosses that they are representing a part of the district that would not otherwise be represented.

This research has important implications for understanding how and when women's policy interests will be represented in the legislature. The finding that electoral institutions influence women's legislative behavior indicates that electoral institutions

likely have a direct impact on how and when female representatives stand for women. This research illustrates that women who are discouraged from distinguishing themselves from their copartisans are not likely to behave differently from their male colleagues. Rather, they are likely to exhibit the same sort of behavior in effort to appeal to party bosses. This implies that female legislators in these districts may be less likely to articulate women's issues. Conversely, women who are elected in districts with strong personalizing incentives are encouraged to behave differently from their copartisans. As such, these women may be more likely to stand for women.

This research also has important implications for electoral system design. Scholars are typically concerned with designing institutions to increase the numeric representation of marginalized groups. Moreover, the research explains why it is important for scholars to also consider how institutions shape groups' behavior once members of these groups are in office. These findings do not to suggest that considering a single source of institutional incentives can entirely explain when women's descriptive representation will influence the substantive representation of women's interests. Rather, they demonstrate the importance of examining the broader conditions under which policy is made.

Chapter 5

Conclusion

Scholars of political representation are keenly interested in understanding how to increase women's numeric representation in political office and how these increases will influence women's legislative behavior. This research contributes to our understanding of this relationship in three specific ways. First, it examines the extent to which female legislators have divergent legislative preferences from their male colleagues. Second, it investigates how the adoption of gender quotas and changes in women's numeric representation influence women's legislative behavior. Third, I develop a theory about how institutional incentives foster or quell the propensity of female legislatures to represent women. I derive multiple implications from the institutional explanation and find strong empirical support.

To evaluate the aforementioned relationships it is necessary to have a significant number of legislative chambers that vary in both institutional incentives and the proportion of female legislators. As a result, I have chosen to study women's legislative behavior at the subnational level in Argentina. As the first country to adopt legislative gender quotas (in 1993 at the provincial level), Argentina is the only context in the world that offers a long time line of gender quotas (over 15 years) and a large degree of variation in the initiation and success of quotas. Moreover, there is significant variation in the electoral institutions employed in each of these legislatures. On the one extreme,

several of the legislatures use at-large districts with closed lists to elect representatives; meanwhile others use single member districts.

Therefore, I collect an original data set that allows me to evaluate women's legislative behavior over a long temporal domain (18 years) for a large number of legislative chambers (23), which vary with respect the proportion of women in the legislature and the electoral incentives. I conducted extensive field work in Argentina, visiting 27 different legislative chambers in 19 of the country's 24 provinces. In each province I conducted elite interviews and carried out archival research to create an original dataset on women's legislative involvement and activities. I collected information on bill sponsorship and cosponsorship activity, committee appointments, ministerial posts, as well as party and legislative leadership posts. The contribution of my research will not be limited to only the literature on gender quotas and women's legislative behavior, but will also further research on the relationship between political institutions and legislative behavior more generally.

Gender and Legislative Preferences

The motivation for this dissertation is to understanding if female and male legislators have different legislative behaviors and the extent to which they represent constituents differently. A key piece of this puzzle is to understand if female legislators have different legislative preferences than male legislators. Conventional research examining this question typically uses roll call data to measure legislative preferences. Yet extant research using roll call data results in mixed findings. I argue that while male and female legislators are likely to have distinct preferences these differences are difficult

to detect using roll call data since it is highly structured by party influences. I address this shortcoming by drawing on cosponsorship data to measure legislative preferences. Like roll call data, cosponsorship data can be used to recover ideal point estimates but cosponsorship data is not subject to the same level of party pressures, therefore it is more useful for examining intra-party differences such as gender. To test this argument I analyze original cosponsorship data from 18 provincial legislative chambers in Argentina over a 16-year period of time. Using a principal component analysis to recover ideal point estimates from 117 legislative sessions, I find statistically significant gender differences in approximately 80% of the chambers. This study provides evidence that gender does influence legislative preferences. While this is only one small piece of the puzzle, it is an important part of understanding women's representation.

The Direct Effect: Testing the Relationship Between Descriptive and Substantive Representation

The widespread adoption of gender quotas is based largely on the belief that increases in women's numeric representation will result in more attention to women's issues. However, previous research that examines this relationship rarely finds a direct relationship between the two. The second empirical chapter investigates directly the relationship between women's numeric representation and women's legislative behavior. Using an interactive hierarchical linear model I examine both bill introduction and cosponsorship behavior for 23 provincial level legislatures from 1992 to 2009. I fail to find support for the hypothesis that increases in women's descriptive representation results in increases in attention to women's interests. Although findings from individual

province level analyses are mixed, on average I find that as the percentage of women in the legislature increases women are less likely to collaborate with female colleagues to pursue a common legislative agenda. This corroborates previous mixed or null findings in the literature. Despite findings from the previous chapter, which illustrate that women do have divergent legislative preferences, these empirical results suggest that other factors condition women's incentives and abilities to represent women.

Institutional Incentives and Women's Legislative Behavior

One possible reason why there is no consensus in the literature regarding the impact of increases in numeric representation on women's legislative behavior is that not all women have the same institutional opportunity or electoral incentive to represent women's interests. Broadly speaking electoral systems affect representatives' incentives to either enhance a personal reputation or to exhibit their party loyalty (Carey and Shugart 1995). It is likely that institutional incentives influence women's propensity and ability to represent women.

Consider for example electoral systems where voters vote for individual candidates as opposed to political parties. Since voters choose between politicians, individual candidates have strong incentives to distinguish themselves from their copartisans by cultivating their personal reputation in effort to bolster their electoral prospects (personalizing incentives). On the other hand, if voters choose between political parties, rather than individuals, candidates have an incentive to display strong party loyalty and enhance the party's reputation (party-centered incentives). This is because party leaders (not voters) determine who will represent the party.

These different incentives fostered by different electoral systems mediate the link between women's numeric representation and women's ability to represent female constituencies. If we assume that legislators are rational actors who seek to enhance their political career, then female legislators who are elected in districts that encourage them to develop their personal reputation may signal to voters that they stand for women in effort to distinguish themselves from their male copartisans. As a result, women may be more inclined to champion women's issues or work with female colleagues. On the other hand, legislators who are elected in districts that encourage party loyalty have no incentive to deviate from the party platform or to distinguish themselves from their copartisans. Therefore, women who are elected into these districts may be less likely to signal to voters that they represent women's interests. Instead, they are more likely to exhibit the same behavior and interests as their male colleagues in order to demonstrate their commitment to the party.

I develop multiple implications for the institutional explanation and empirically demonstrate the conditions under which this relationship holds. My research provides strong empirical support for the hypothesis that women who face strong party-centered incentives are not likely to distinguish themselves from their male colleagues. Institutional incentives in these districts discourage women from pursuing an independent legislative agenda, building their own reputation, or even from behaving differently than the average male legislator. This implies that women in these districts maybe discouraged from articulating women's interests. However, female legislators who are elected in legislative districts that preserve some personalizing incentives are likely to distinguish themselves from their male colleagues. Since these women are not discouraged from

behaving differently than their male colleagues they can more freely pursue their own legislative agenda and cooperate with like-minded women. This implies that women who face personalizing incentives may be more likely to represent women's interests.

In addition to the implications this research has for women's representation, it also has important implications for electoral system design. Scholars are typically concerned with designing institutions to increase the numeric representation of historically marginalized groups. However, this research explains why it is important for scholars to also consider how institutions shape groups' behavior once they are in office. Further, my research has implications for understanding how electoral institutions structure legislators' behavior more generally. While Carey and Shugart (1995) hypothesize about this relationship, to date there are few empirical tests. This dissertation contributes to our understanding of this relationship by providing rigorous tests of multiple empirical implications that fall from their theory.

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Appendix A: The Impact of Descriptive Representation: Chamber Level Analyses

Table A1: Determinants of Gender Cosponsorship Score by Province: Whole Chamber, All Legislation

Province	Buenos Aires H.	Buenos Aires S.	Capital Federal	Chaco	Chubut	Cordoba Unicameral	Cordoba H.	Cordoba S.	Corrientes H.	Corrientes S.	Entre Rios
Year	**1992-2009**	**1992-2009**	**1998-2008**	**1992-2009**	**1994-2008**	**2002-2008**	**1992-2000**	**1992-2000**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.101*	-0.119	0.189	-0.003	0.039	-0.121	0.158***	-0.120	0.091	-0.205*	0.078
	(0.047)	(0.105)	(0.314)	(0.056)	(0.201)	(0.492)	(0.047)	(0.074)	(0.086)	(0.094)	(0.060)
% Women	0.016	-0.235	0.193	0.034	-0.368	0.014	0.765***	1.061	-1.029*	0.025	0.083
	(0.145)	(0.373)	(0.583)	(0.143)	(0.364)	(1.746)	(0.159)	(0.845)	(0.465)	(0.184)	(0.155)
% Women	-0.064	1.851**	-0.511	0.085	-0.413	0.588	-0.816**	1.174	-0.905	0.492	-0.710
X Female	(0.230)	(0.605)	(0.901)	(0.291)	(0.744)	(1.093)	(0.262)	(4.531)	(0.789)	(0.433)	(0.479)
Quota Years	0.003	0.013	-0.010**	0.002	0.006	0.026	0.067***	-0.008	0.023	0.003	.
	(0.004)	(0.010)	(0.004)	(0.005)	(0.005)	(0.063)	(0.011)	(0.015)	(0.016)	(0.017)	.
Quota Years	0.003	-0.027**	0.002	0.001	0.018	0.011	0.026**	0.017	0.015	0.009	.
X Female	(0.004)	(0.009)	(0.004)	(0.005)	(0.010)	(0.015)	(0.009)	(0.089)	(0.021)	(0.017)	.
Economic Development	0.003	0.005	-0.020*	0.003	-0.004	-0.031	0.119***	-0.002	-0.008	0.005	-0.004
	(0.007)	(0.016)	(0.010)	(0.002)	(0.013)	(0.058)	(0.018)	(0.002)	(0.006)	(0.007)	(0.002)
Legislation Authored	-0.000*	-0.002**	0.000	-0.000*	-0.000	0.000	-0.000**	0.001***	0.001**	0.001***	0.000*
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.072	-0.057	0.178	-0.053	0.078	0.278	-2.419***	0.021	0.202	-0.127	0.039
	(0.165)	(0.385)	(0.256)	(0.074)	(0.287)	(0.365)	(0.362)	(0.032)	(0.186)	(0.178)	(0.048)
Observations	788	361	355	285	199	279	329	298	198	100	244

Table A1 cont.: Determinants of Gender Cosponsorship Score by Province: Whole Chamber, All Legislation

Province	Jujuy	Mendoza H.	Mendoza S.	Misiones	Rio Negro	Salta	Santa Cruz	Santa Fe S.	Tucuman	Santa Fe H.
Year	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1996-2008**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.001	0.109	0.191*	0.015	0.669***	0.199**	0.042	-0.374***	0.101	-0.010
	(0.118)	(0.069)	(0.076)	(0.095)	(0.145)	(0.063)	(0.064)	(0.065)	(0.074)	(0.060)
% Women	-0.956**	0.568*	-0.357	-0.072	1.753**	-0.431**	-0.235	-0.450***	-0.343	-0.144
	(0.353)	(0.231)	(0.282)	(0.199)	(0.564)	(0.164)	(0.124)	(0.098)	(0.203)	(0.105)
% Women	0.050	0.382	-0.885	-0.322	-0.485	-0.939*	0.558	7.579***	1.160**	0.611*
X Female	(0.492)	(0.463)	(0.561)	(0.383)	(0.893)	(0.395)	(0.408)	(0.724)	(0.436)	(0.259)
Quota Years	.	0.005	0.002	-0.005	0.008	-0.001	0.002	.	-0.003	0.003
	.	(0.003)	(0.003)	(0.003)	(0.007)	(0.004)	(0.002)	.	(0.006)	(0.004)
Quota Years	.	-0.006	0.003	0.011***	-0.035**	-0.001	-0.009*	.	-0.019***	-0.012**
X Female	.	(0.004)	(0.005)	(0.003)	(0.012)	(0.004)	(0.004)	.	(0.006)	(0.004)
Economic Development	-0.013**	0.020***	0.005	-0.017***	0.022*	-0.012***	-0.005	0.002	-0.003	-0.002
	(0.004)	(0.005)	(0.006)	(0.005)	(0.010)	(0.003)	(0.004)	(0.001)	(0.004)	(0.008)
Legislation Authored	0.001**	0.001**	-0.001**	-0.000***	-0.000***	0.001***	-0.000	0.000***	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.484**	-0.604***	-0.068	0.486**	-0.837**	0.338***	0.101	-0.055*	0.089	0.041
	(0.163)	(0.162)	(0.167)	(0.148)	(0.258)	(0.086)	(0.074)	(0.025)	(0.105)	(0.144)
	423	422	329	349	283	526	213	170	354	436

Table A2: Determinants of Gender Cosponsorship Score by Province: Whole Chamber, Women's Domain

Province	Buenos Aires H.	Buenos Aires S.	Capital Federal	Chaco	Chubut	Cordoba Unicameral	Cordoba H.	Cordoba S.	Corrientes H.	Corrientes S.	Entre Rios
Year	**1992-2009**	**1992-2009**	**1998-2008**	**1992-2009**	**1994-2008**	**2002-2008**	**1992-2000**	**1992-2000**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.114***	-0.066	0.139	-0.010	-0.030	1.018***	0.094***	0.073*	-0.023	-0.033	0.064*
	(0.029)	(0.066)	(0.282)	(0.051)	(0.062)	(0.271)	(0.026)	(0.032)	(0.066)	(0.069)	(0.027)
% Women	-0.392***	-0.294	0.537	-0.488***	-0.461***	-4.306***	-0.249**	-0.039	-1.180**	-0.145	-0.629***
	(0.089)	(0.234)	(0.523)	(0.130)	(0.112)	(0.962)	(0.087)	(0.363)	(0.358)	(0.134)	(0.071)
% Women	-0.409**	1.157**	-0.349	0.346	0.110	-2.004***	-0.206	-4.628*	-0.762	0.202	-0.214
X Female	(0.141)	(0.379)	(0.809)	(0.265)	(0.229)	(0.602)	(0.143)	(1.948)	(0.609)	(0.315)	(0.221)
Quota Years	-0.002	0.012	-0.009**	0.005	0.001	-0.114**	0.016**	-0.002	0.022	0.012	.
	(0.003)	(0.006)	(0.003)	(0.004)	(0.002)	(0.035)	(0.006)	(0.006)	(0.012)	(0.012)	.
Quota Years	0.005	-0.021***	0.003	-0.007	0.002	-0.030***	-0.007	0.074	0.022	0.008	.
X Female	(0.002)	(0.006)	(0.003)	(0.004)	(0.003)	(0.008)	(0.005)	(0.038)	(0.016)	(0.013)	.
Economic Development	-0.003	0.011	-0.030***	0.000	-0.002	0.090**	0.029**	-0.000	-0.004	0.009	-0.002
	(0.004)	(0.010)	(0.009)	(0.002)	(0.004)	(0.032)	(0.010)	(0.001)	(0.005)	(0.005)	(0.001)
Legislation Authored	-0.000***	-0.001***	-0.000	0.000	-0.001*	-0.000***	-0.000***	0.000	0.001**	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.084	-0.231	0.069	0.011	0.039	1.030***	-0.564**	0.007	0.111	-0.213	0.044*
	(0.101)	(0.241)	(0.230)	(0.068)	(0.088)	(0.201)	(0.197)	(0.014)	(0.143)	(0.130)	(0.022)
Observations	788	361	355	285	199	279	329	298	198	100	244

Table A2 cont.: Determinants of Gender Cosponsorship Score by Province: Whole Chamber, Women's Domain

Province	**Jujuy**	**Mendoza H.**	**Mendoza S.**	**Misiones**	**Rio Negro**	**Salta**	**Santa Cruz**	**Santa Fe S.**	**Tucuman**	**Santa Fe H.**
Year	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1996-2008**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.005	0.073	0.071	0.039	0.190**	0.073	0.034	0.001	0.113*	-0.018
	(0.065)	(0.047)	(0.062)	(0.061)	(0.069)	(0.044)	(0.044)	(0.019)	(0.044)	(0.037)
% Women	-0.161	-0.070	-0.558*	-0.450***	-0.520	-0.261*	-0.235**	0.031	-0.280*	-0.415***
	(0.195)	(0.157)	(0.230)	(0.129)	(0.269)	(0.116)	(0.087)	(0.028)	(0.121)	(0.064)
% Women	0.056	0.402	-0.436	-0.197	0.630	-0.212	-0.063	-0.006	-0.020	0.495**
X Female	(0.271)	(0.316)	(0.458)	(0.248)	(0.425)	(0.279)	(0.285)	(0.208)	(0.259)	(0.158)
Quota Years	.	-0.001	0.002	0.005*	-0.001	0.000	0.001	.	-0.006	0.006**
	.	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.001)	.	(0.004)	(0.002)
Quota Years	.	-0.008**	0.007	0.002	-0.026***	-0.003	0.000	.	-0.008*	-0.009***
X Female	.	(0.003)	(0.004)	(0.002)	(0.006)	(0.003)	(0.003)	.	(0.003)	(0.002)
Economic Development	-0.001	0.004	-0.000	0.001	-0.004	-0.002	-0.001	0.001	-0.007**	0.001
	(0.002)	(0.004)	(0.005)	(0.003)	(0.005)	(0.002)	(0.003)	(0.000)	(0.002)	(0.005)
Legislation Authored	-0.000	0.001***	-0.000	-0.000***	-0.000***	0.000	0.000	0.000	0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.018	-0.139	0.038	-0.025	0.114	0.054	-0.011	-0.012	0.187**	-0.013
	(0.090)	(0.110)	(0.137)	(0.096)	(0.123)	(0.061)	(0.051)	(0.007)	(0.063)	(0.088)
Observations	423	422	329	349	283	526	213	170	354	436

Table A3: Determinants of Gender Cosponsorship Score by Province: Other Party, All Legislation

Province	Buenos Aires H.	Buenos Aires S.	Capital Federal	Chaco	Chubut	Cordoba Unicameral	Cordoba H.	Cordoba S.	Corrientes H.	Corrientes S.	Entre Rios
Year	**1992-2009**	**1992-2009**	**1998-2008**	**1992-2009**	**1994-2008**	**2002-2008**	**1992-2000**	**1992-2000**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.346***	0.174	0.502	0.071	-0.126	0.598	0.134*	-0.104	0.236	-0.135	0.010
	(0.073)	(0.150)	(0.511)	(0.081)	(0.312)	(0.627)	(0.062)	(0.117)	(0.142)	(0.196)	(0.088)
% Women	0.523*	0.474	0.680	-0.002	-0.548	1.992	0.901***	1.558	-0.746	0.576	0.072
	(0.219)	(0.607)	(0.925)	(0.211)	(0.594)	(2.221)	(0.215)	(1.463)	(0.719)	(0.556)	(0.225)
% Women	-0.797*	0.721	-1.395	-0.076	0.783	-0.641	-0.533	-1.382	-1.878	-1.357	-0.327
X Female	(0.343)	(0.928)	(1.474)	(0.420)	(1.102)	(1.393)	(0.346)	(7.198)	(1.215)	(1.286)	(0.719)
Quota Years	0.003	0.010	-0.011	-0.002	0.010	0.100	0.052***	-0.009	0.020	0.009	.
	(0.006)	(0.016)	(0.006)	(0.007)	(0.008)	(0.080)	(0.016)	(0.025)	(0.024)	(0.044)	.
Quota Years	0.003	-0.007	0.004	0.001	0.002	-0.015	0.029*	0.061	0.022	0.077	.
X Female	(0.006)	(0.016)	(0.006)	(0.007)	(0.015)	(0.019)	(0.012)	(0.141)	(0.031)	(0.055)	.
Economic Development	0.009	0.008	-0.019	0.002	0.005	-0.097	0.101***	-0.002	-0.006	0.020	-0.007*
	(0.011)	(0.025)	(0.016)	(0.003)	(0.021)	(0.073)	(0.025)	(0.003)	(0.009)	(0.017)	(0.003)
Legislation Authored	-0.001*	-0.008*	0.001	-0.000	0.002	-0.000	-0.001*	0.009**	0.003*	0.004**	0.001
	(0.000)	(0.003)	(0.000)	(0.000)	(0.004)	(0.000)	(0.001)	(0.003)	(0.001)	(0.001)	(0.001)
Constant	-0.257	-0.213	0.032	-0.005	-0.015	-0.004	-2.080***	-0.002	0.138	-0.523	0.131
	(0.248)	(0.590)	(0.412)	(0.106)	(0.454)	(0.469)	(0.501)	(0.057)	(0.272)	(0.429)	(0.070)
Observations	682	249	334	280	146	271	320	240	135	61	211

Table A3 cont.: Determinants of Gender Cosponsorship Score by Province: Other Party, All Legislation

Province	**Jujuy**	**Mendoza H.**	**Mendoza S.**	**Misiones**	**Rio Negro**	**Salta**	**Santa Cruz**	**Santa Fe S.**	**Tucuman**	**Santa Fe H.**
Year	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1996-2008**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.053	0.137	0.280*	0.018	0.988***	0.232*	0.082	-0.383***	0.031	0.045
	(0.162)	(0.141)	(0.129)	(0.134)	(0.217)	(0.102)	(0.083)	(0.083)	(0.103)	(0.100)
% Women	-1.137*	0.963*	-0.819	-0.491	1.980*	-0.374	-0.152	-0.342**	-0.159	-0.457**
	(0.486)	(0.473)	(0.476)	(0.285)	(0.872)	(0.279)	(0.162)	(0.125)	(0.301)	(0.162)
% Women	-0.186	-0.189	-1.171	-0.458	-0.825	-0.580	0.351	7.720***	0.507	1.092**
X Female	(0.669)	(0.950)	(0.954)	(0.543)	(1.338)	(0.650)	(0.522)	(0.958)	(0.614)	(0.418)
Quota Years	.	-0.003	0.007	-0.006	0.013	-0.007	0.002	.	0.008	0.006
	.	(0.006)	(0.005)	(0.005)	(0.010)	(0.007)	(0.002)	.	(0.010)	(0.007)
Quota Years	.	-0.000	0.002	0.017***	-0.050**	-0.008	-0.009	.	-0.006	-0.026***
X Female	.	(0.008)	(0.009)	(0.004)	(0.018)	(0.007)	(0.005)	.	(0.008)	(0.006)
Economic Development	-0.017**	0.017	0.010	-0.026***	0.031*	-0.014**	-0.004	-0.001	0.006	-0.016
	(0.005)	(0.011)	(0.010)	(0.007)	(0.015)	(0.005)	(0.005)	(0.002)	(0.006)	(0.013)
Legislation Authored	0.003**	0.002*	-0.001	-0.001***	-0.001**	0.002***	-0.001	0.003***	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Constant	0.641**	-0.482	-0.102	0.816***	-1.022*	0.454**	0.113	-0.013	-0.145	0.296
	(0.218)	(0.323)	(0.286)	(0.223)	(0.396)	(0.147)	(0.098)	(0.029)	(0.164)	(0.252)
Observations	377	377	312	344	263	451	207	162	301	404

Table A3: Determinants of Gender Cosponsorship Score by Province: Other Party, Women's Domain

Province	Buenos Aires H.	Buenos Aires S.	Capital Federal	Chaco	Chubut	Cordoba Unicameral	Cordoba H.	Cordoba S.	Corrientes H.	Corrientes S.	Entre Rios
Year	**1992-2009**	**1992-2009**	**1998-2008**	**1992-2009**	**1994-2008**	**2002-2008**	**1992-2000**	**1992-2000**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.276***	-0.049	0.571	0.057	-0.024	1.797***	0.110***	0.136*	0.033	0.043	-0.021
	(0.046)	(0.083)	(0.451)	(0.073)	(0.119)	(0.455)	(0.032)	(0.059)	(0.090)	(0.125)	(0.032)
% Women	-0.255	0.257	1.648*	-0.472*	0.014	-4.220**	-0.213	0.013	-1.633***	-0.464	-0.758***
	(0.139)	(0.334)	(0.817)	(0.192)	(0.227)	(1.610)	(0.112)	(0.742)	(0.456)	(0.355)	(0.082)
% Women	-1.031***	1.354**	-1.612	0.158	0.032	-3.415***	-0.184	-6.669	-1.020	-0.890	0.591*
X Female	(0.218)	(0.511)	(1.302)	(0.382)	(0.421)	(1.010)	(0.180)	(3.651)	(0.770)	(0.821)	(0.261)
Quota Years	-0.000	0.006	-0.011*	0.003	-0.003	-0.110	0.016	-0.003	0.035*	0.036	.
	(0.004)	(0.009)	(0.005)	(0.006)	(0.003)	(0.058)	(0.008)	(0.013)	(0.015)	(0.028)	.
Quota Years	0.006	-0.017*	0.008	-0.007	0.003	-0.056***	-0.008	0.101	0.020	0.057	.
X Female	(0.004)	(0.009)	(0.005)	(0.006)	(0.006)	(0.014)	(0.006)	(0.071)	(0.020)	(0.035)	.
Economic Development	0.001	0.016	-0.027*	-0.001	0.025**	0.094	0.028*	0.003	-0.003	0.020	-0.003*
	(0.007)	(0.014)	(0.014)	(0.003)	(0.008)	(0.053)	(0.013)	(0.002)	(0.006)	(0.011)	(0.001)
Legislation Authored	-0.001***	-0.007***	0.000	0.000	-0.001	-0.002***	-0.001**	-0.001	0.003***	0.000	0.000
	(0.000)	(0.002)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Constant	-0.024	-0.386	-0.330	0.062	-0.504**	0.912**	-0.562*	-0.054	0.061	-0.476	0.076**
	(0.158)	(0.325)	(0.363)	(0.097)	(0.173)	(0.340)	(0.261)	(0.029)	(0.172)	(0.274)	(0.025)
Observations	682	249	334	280	146	271	320	240	135	61	211

Table A3 cont.: Determinants of Gender Cosponsorship Score by Province: Other Party, Women's Domain

Province	**Jujuy**	**Mendoza H.**	**Mendoza S.**	**Misiones**	**Rio Negro**	**Salta**	**Santa Cruz**	**Santa Fe S.**	**Tucuman**	**Santa Fe H.**
Year	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1996-2008**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**	**1992-2009**
Female Legislator	0.072	0.076	0.200	0.041	0.311***	0.085	0.031	0.005	0.041	0.018
	(0.089)	(0.094)	(0.102)	(0.084)	(0.087)	(0.063)	(0.048)	(0.032)	(0.056)	(0.067)
% Women	-0.124	-0.359	-0.473	-0.552**	-1.102**	-0.326	-0.235*	0.035	-0.462**	-0.473***
	(0.268)	(0.316)	(0.379)	(0.179)	(0.349)	(0.172)	(0.093)	(0.049)	(0.162)	(0.110)
% Women	-0.169	0.482	-1.388	-0.245	1.110*	-0.147	-0.056	-0.104	0.344	0.650*
X Female	(0.370)	(0.635)	(0.758)	(0.342)	(0.536)	(0.402)	(0.300)	(0.372)	(0.332)	(0.282)
Quota Years	.	-0.003	0.007	0.004	0.005	-0.000	0.002	.	-0.004	0.006
	.	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.001)	.	(0.005)	(0.005)
Quota Years	.	-0.011	0.014*	0.003	-0.045***	-0.005	0.000	.	-0.009*	-0.014***
X Female	.	(0.006)	(0.007)	(0.003)	(0.007)	(0.004)	(0.003)	.	(0.004)	(0.004)
Economic Development	0.000	-0.004	0.010	-0.003	-0.004	-0.001	0.000	-0.000	-0.007*	-0.003
	(0.003)	(0.007)	(0.008)	(0.004)	(0.006)	(0.003)	(0.003)	(0.001)	(0.003)	(0.009)
Legislation Authored	0.001	0.003***	-0.001	-0.001***	-0.001**	0.001*	0.000	0.000	-0.000	-0.001***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.048	0.109	-0.213	0.114	0.199	0.043	-0.037	0.002	0.219*	0.044
	(0.121)	(0.216)	(0.227)	(0.140)	(0.159)	(0.091)	(0.056)	(0.011)	(0.088)	(0.170)
Observations	377	377	312	344	263	451	207	162	301	404

Table A4: Determinants of Gender Cosponsorship Score with Province and Year Fixed Effects

	All Legislation		Women's Domain	
	Whole Chamber	Other Party	Whole Chamber	Other Party
Female Legislator	0.038	0.051**	0.031	0.045
	(0.027)	(0.016)	(0.038)	(0.024)
% Women	-0.503***	-0.319***	-0.281	-0.360***
	(0.121)	(0.073)	(0.175)	(0.107)
(% Women)^2	0.933**	-0.173	0.546	-0.195
	(0.292)	(0.175)	(0.423)	(0.259)
% Women	0.316	-0.061	0.798*	0.321
X Female	(0.249)	(0.149)	(0.357)	(0.218)
(% Women)^2	-1.347**	-0.028	-2.469***	-0.981*
X Female	(0.519)	(0.311)	(0.747)	(0.458)
Quota Years	0.004	0.002	0.004	0.002
	(0.003)	(0.002)	(0.004)	(0.002)
(Quota Years)2	-0.000	-0.000	-0.000*	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	0.016***	0.002	0.018***	0.002
X Female	(0.003)	(0.002)	(0.005)	(0.003)
(Quota Years)2	-0.001***	-0.000	-0.001***	-0.000
X Female	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.001	-0.003***	0.003*	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)
Legislation Authored	-0.000*	-0.000***	-0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.002	0.064***	-0.044	0.055**
	(0.021)	(0.012)	(0.030)	(0.019)
Observations	7246	7246	6377	6377
Provinces	23	23	23	23
Sessions	181	181	181	181

These models were estimated using province and year fixed effects. Fixed effects parameters are omitted from table.

Appendix B: The Impact of Electoral Incentives: Sensitivity Analyses

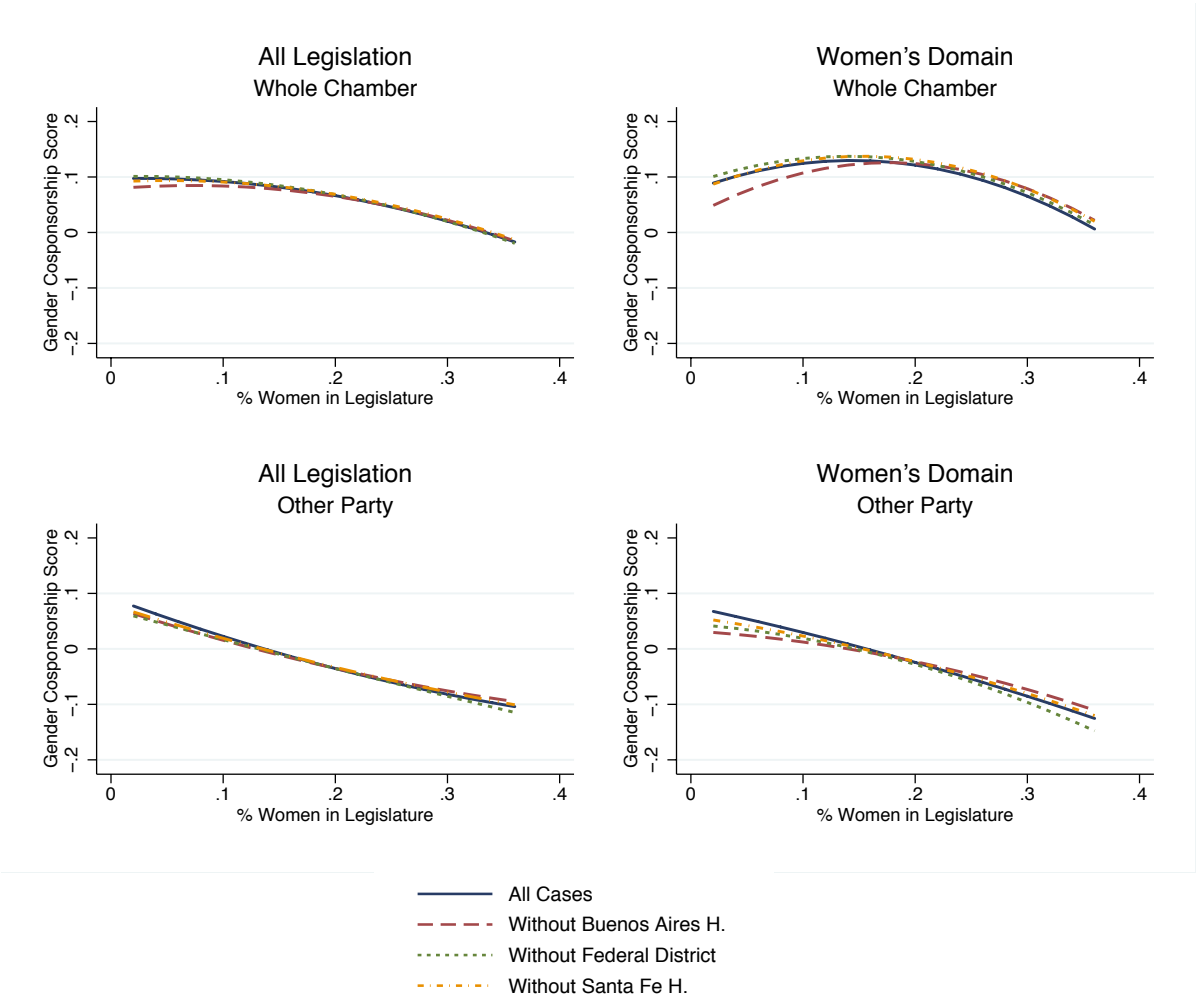
Table B1: Determinants of Gender Cosponsorship Score, Sensitivity Analyses for Large Districts

	All Legislation Whole Chamber				All Legislation Other Party			
	Whole Chamber	Without Buenos Aires	Without Federal District	Without Santa Fe H.	Whole Chamber	Without Buenos Aires	Without Federal District	Without Santa Fe H.
Female Legislator	0.023	0.011	0.023	0.033	0.071***	0.067**	0.067***	0.085***
	(0.034)	(0.037)	(0.036)	(0.037)	(0.020)	(0.021)	(0.020)	(0.021)
% Women	-0.274	-0.263	-0.317	-0.243	-0.350*	-0.342*	-0.315*	-0.327*
	(0.209)	(0.223)	(0.215)	(0.226)	(0.143)	(0.149)	(0.143)	(0.152)
(% Women)^2	0.663	0.620	0.744	0.590	-0.050	-0.067	-0.169	-0.123
	(0.495)	(0.530)	(0.516)	(0.529)	(0.338)	(0.353)	(0.341)	(0.356)
% Women	0.387	0.438	0.372	0.297	-0.291	-0.319	-0.233	-0.428*
X Female	(0.307)	(0.325)	(0.324)	(0.330)	(0.177)	(0.187)	(0.181)	(0.190)
(% Women)^2	-1.778**	-1.830**	-1.824**	-1.618*	0.440	0.581	0.265	0.704
X Female	(0.635)	(0.670)	(0.693)	(0.682)	(0.367)	(0.385)	(0.387)	(0.391)
Quota Years	0.002	0.002	0.003	0.001	-0.003	-0.004	-0.004	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
(Quota Years)2	0.000	0.000	0.000	0.000	0.000*	0.000*	0.000*	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	0.020***	0.020***	0.022***	0.019***	0.002	0.003	0.002	0.001
X Female	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
(Quota Years)2	-0.001***	-0.001***	-0.001***	-0.001***	-0.000	-0.000	-0.000	-0.000
X Female	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.000	0.000	0.000	0.000	-0.002	-0.002	-0.002	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GDI	-0.015	-0.029	0.066	0.013	-0.046	-0.084	-0.371	-0.066
	(0.360)	(0.380)	(0.471)	(0.377)	(0.249)	(0.250)	(0.293)	(0.261)
Legislation Authored	-0.000**	-0.000*	-0.000***	-0.000**	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.020	0.032	-0.042	-0.001	0.088	0.116	0.345	0.110
	(0.305)	(0.322)	(0.390)	(0.319)	(0.210)	(0.212)	(0.243)	(0.220)
Random-effects Parameters								
Province	-3.618***	-3.578***	-3.545***	-3.558***	-3.986***	-4.022***	-4.081***	-3.913***
	(0.296)	(0.308)	(0.289)	(0.298)	(0.289)	(0.312)	(0.311)	(0.297)
Year	-3.335***	-3.264***	-3.348***	-3.327***	-3.624***	-3.586***	-3.640***	-3.638***
	(0.108)	(0.107)	(0.114)	(0.114)	(0.092)	(0.094)	(0.094)	(0.098)
Residual	-1.932***	-1.938***	-1.914***	-1.908***	-2.485***	-2.495***	-2.499***	-2.467***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Observations	4603	3919	4248	4167	4603	3919	4248	4167
Provinces	17	16	16	15	17	16	16	15
Legislative Sessions	129	120	123	114	129	120	123	114

Table B2: Determinants of Gender Cosponsorship Score, Sensitivity Analysis for Large Districts Continued

	Women's Domain Whole Chamber				Women's Domain Other Party			
	Whole Chamber	Without Buenos Aires	Without Federal District	Without Santa Fe H.	Whole Chamber	Without Buenos Aires	Without Federal District	Without Santa Fe H.
Female Legislator	0.019	-0.038	0.025	0.034	0.077**	0.040	0.071*	0.092**
	(0.048)	(0.051)	(0.050)	(0.051)	(0.029)	(0.030)	(0.029)	(0.030)
% Women	0.189	0.156	0.143	0.253	-0.234	-0.252	-0.189	-0.224
	(0.267)	(0.279)	(0.272)	(0.290)	(0.191)	(0.198)	(0.184)	(0.204)
(% Women)^2	-0.385	-0.382	-0.335	-0.533	-0.368	-0.349	-0.534	-0.427
	(0.627)	(0.660)	(0.653)	(0.677)	(0.448)	(0.468)	(0.441)	(0.477)
% Women	0.670	0.949*	0.569	0.510	-0.060	0.126	0.041	-0.208
X Female	(0.427)	(0.443)	(0.447)	(0.452)	(0.256)	(0.263)	(0.257)	(0.268)
(% Women)^2	-2.395**	-2.734**	-2.213*	-2.116*	-0.190	-0.404	-0.538	0.071
X Female	(0.882)	(0.912)	(0.953)	(0.933)	(0.529)	(0.540)	(0.549)	(0.554)
Quota Years	0.001	-0.000	0.002	0.001	-0.003	-0.004	-0.003	-0.005
	(0.005)	(0.005)	(0.005)	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
(Quota Years)2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	0.026***	0.026***	0.029***	0.023***	0.003	0.006	0.003	0.001
X Female	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)	(0.003)	(0.003)	(0.003)
(Quota Years)2	-0.001***	-0.002***	-0.002***	-0.001***	-0.000	-0.001*	-0.000	-0.000
X Female	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.001	0.001	0.001	0.001	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
GDI	0.144	0.158	0.211	0.169	0.240	0.217	-0.198	0.208
	(0.383)	(0.409)	(0.504)	(0.411)	(0.298)	(0.309)	(0.320)	(0.324)
Legislation Authored	-0.000	-0.000	-0.000*	-0.000*	-0.001***	-0.000***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.138	-0.143	-0.186	-0.152	-0.162	-0.143	0.178	-0.127
	(0.330)	(0.353)	(0.422)	(0.353)	(0.255)	(0.265)	(0.270)	(0.275)
Random-effects Parameters								
Province	-3.802***	-3.707***	-3.635***	-3.659***	-3.916***	-3.895***	-4.214***	-3.758***
	(0.465)	(0.452)	(0.389)	(0.426)	(0.358)	(0.371)	(0.462)	(0.348)
Year	-3.109***	-3.067***	-3.166***	-3.097***	-3.368***	-3.325***	-3.397***	-3.376***
	(0.115)	(0.116)	(0.125)	(0.120)	(0.098)	(0.099)	(0.102)	(0.104)
Residual	-1.655***	-1.675***	-1.643***	-1.641***	-2.170***	-2.202***	-2.198***	-2.167***
	(0.011)	(0.012)	(0.012)	(0.012)	(0.011)	(0.012)	(0.012)	(0.012)
Observations	4093	3507	3759	3689	4093	3507	3759	3689
Provinces	17	16	16	15	17	16	16	15
Legislative Sessions	129	120	123	114	129	120	123	114

Figure B1: Explaining Women's Gender Cosponsorship Score as the Proportion of Women in the Legislature Increases, Sensitivity Analysis for Large Districts



This figure illustrates that the results shown in Chapter 3 for big districts are robust to multiple model specifications. Specifically, the figure demonstrates that none of the largest chambers in the sample are driving the results.

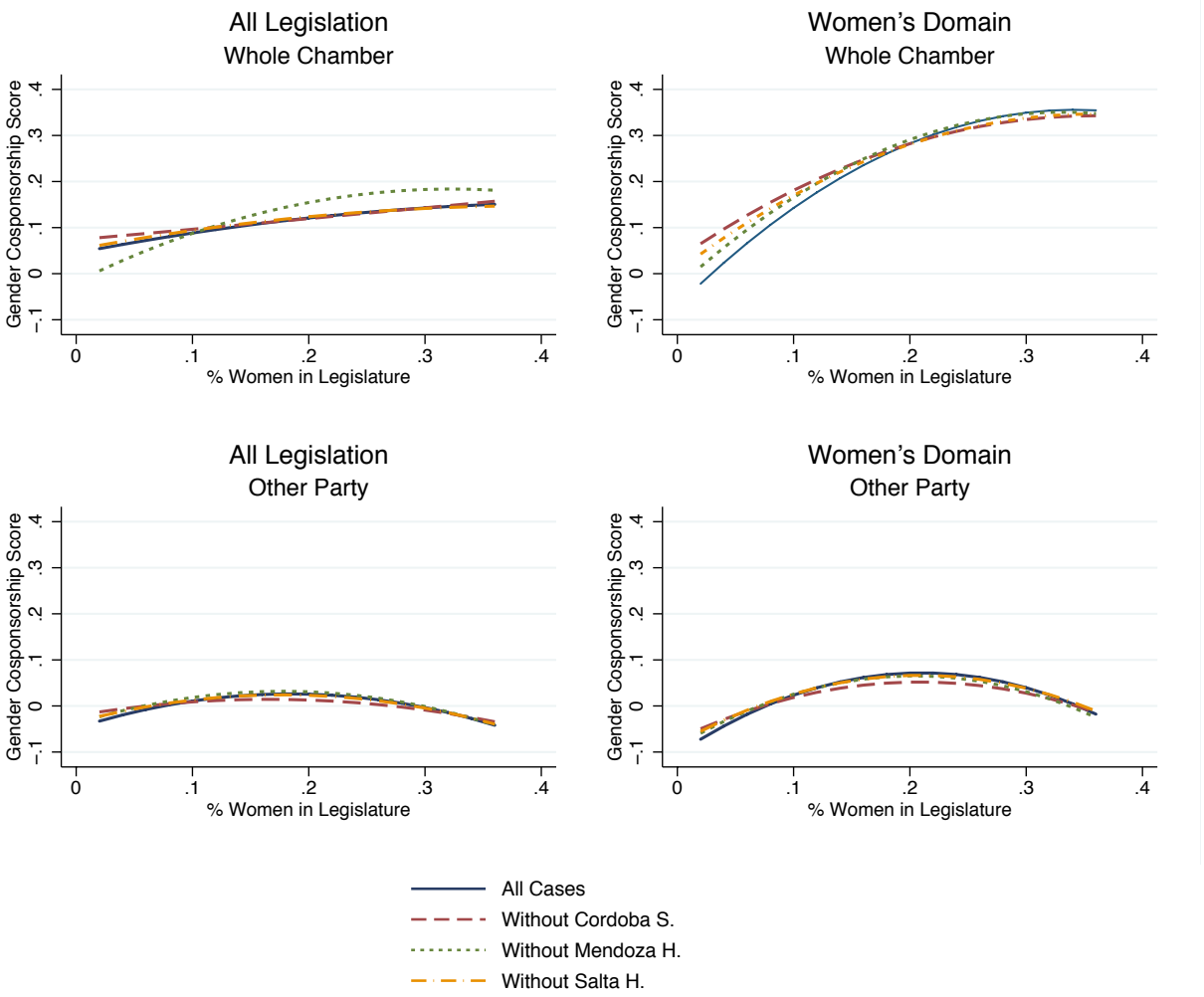
Table B 3: Determinants of Gender Cosponsorship Score, Sensitivity Analysis for Small Districts

	All Legislation Whole Chamber				All Legislation Other Party			
	Whole Chamber	Without Cordoba S.	Without Mendoza H.	Without Salta House	Whole Chamber	Without Cordoba S.	Without Mendoza H.	Without Salta House
Female Legislator	0.006	0.017	-0.033	0.004	-0.023	-0.010	-0.034	-0.039
	(0.044)	(0.048)	(0.047)	(0.056)	(0.028)	(0.030)	(0.029)	(0.036)
% Women	-0.533*	-0.497	-0.399	-0.559*	-0.227	-0.189	-0.169	-0.243
	(0.258)	(0.275)	(0.267)	(0.273)	(0.125)	(0.129)	(0.136)	(0.136)
(% Women)^2	0.688	0.473	0.661	0.768	-0.333	-0.506	-0.396	-0.289
	(0.638)	(0.674)	(0.641)	(0.670)	(0.313)	(0.322)	(0.329)	(0.339)
% Women	1.011*	0.723	1.649**	1.048	0.899**	0.618	0.958**	1.053**
X Female	(0.487)	(0.534)	(0.542)	(0.598)	(0.310)	(0.334)	(0.340)	(0.388)
(% Women)^2	-1.285	-0.456	-2.596*	-1.311	-1.564*	-0.786	-1.822*	-1.910*
X Female	(1.062)	(1.158)	(1.151)	(1.251)	(0.675)	(0.725)	(0.722)	(0.810)
Quota Years	0.013**	0.013*	0.006	0.012*	0.000	0.001	-0.002	-0.000
	(0.005)	(0.005)	(0.006)	(0.005)	(0.002)	(0.002)	(0.003)	(0.003)
(Quota Years)2	-0.001*	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	-0.003	0.002	-0.004	-0.004	-0.005	-0.005	0.001	-0.005
X Female	(0.006)	(0.007)	(0.008)	(0.007)	(0.004)	(0.004)	(0.005)	(0.005)
(Quota Years)2	-0.000	-0.001	-0.000	-0.000	0.000	-0.000	-0.000	0.000
X Female	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.001	0.001	0.003	0.000	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
GDI	-0.789	-0.726	-0.182	-0.860	-0.026	0.027	0.177	-0.001
	(0.615)	(0.642)	(0.725)	(0.643)	(0.280)	(0.314)	(0.382)	(0.314)
Legislation Authored	0.000**	0.000*	0.000	0.000*	-0.000**	-0.000***	-0.000***	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.628	0.578	0.109	0.700	0.048	0.007	-0.120	0.035
	(0.495)	(0.518)	(0.583)	(0.515)	(0.225)	(0.252)	(0.307)	(0.251)
Random-effects Parameters								
Province	-3.595***	-3.599***	-3.592***	-3.595***	-4.440***	-4.272***	-4.191***	-4.331***
	(0.391)	(0.448)	(0.388)	(0.441)	(0.455)	(0.401)	(0.407)	(0.453)
Year	-3.218***	-3.200***	-3.236***	-3.196***	-4.176***	-4.292***	-4.131***	-4.144***
	(0.118)	(0.127)	(0.128)	(0.122)	(0.177)	(0.227)	(0.183)	(0.184)
Residual	-2.006***	-1.981***	-2.002***	-1.985***	-2.449***	-2.435***	-2.460***	-2.406***
	(0.014)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)	(0.015)
Observations	2643	2221	2205	2345	2643	2221	2205	2345
Provinces	12	11	11	11	12	11	11	11
Legislative Sessions	86	81	77	77	86	81	77	77

Table B 4: Determinants of Gender Cosponsorship Score, Sensitivity Analysis for Small Districts

	Women's Domain				Women's Domain			
	Whole Chamber				Other Party			
	Whole Chamber	Without Cordoba	Without Mendoza	Without Salta	Whole Chamber	Without Cordoba	Without Mendoza	Without Salta
Female Legislator	-0.042	-0.033	-0.073	-0.098	-0.066	-0.053	-0.081	-0.094
	(0.068)	(0.071)	(0.071)	(0.085)	(0.043)	(0.044)	(0.045)	(0.054)
% Women	-0.467	-0.503	-0.374	-0.494	-0.290	-0.259	-0.239	-0.316
	(0.333)	(0.354)	(0.360)	(0.354)	(0.168)	(0.188)	(0.180)	(0.185)
(% Women)^2	1.238	1.155	1.211	1.352	-0.158	-0.251	-0.171	-0.091
	(0.836)	(0.882)	(0.875)	(0.878)	(0.424)	(0.467)	(0.436)	(0.458)
% Women	2.381**	2.245**	2.671**	2.988**	1.713***	1.452**	1.742***	1.992***
X Female	(0.758)	(0.792)	(0.835)	(0.927)	(0.474)	(0.486)	(0.525)	(0.587)
(% Women)^2	-3.924*	-3.587*	-4.679**	-5.003*	-3.244**	-2.616*	-3.519**	-3.897**
X Female	(1.680)	(1.756)	(1.800)	(1.969)	(1.051)	(1.076)	(1.132)	(1.247)
Quota Years	0.020**	0.021**	0.014	0.019**	0.004	0.003	-0.000	0.003
	(0.006)	(0.007)	(0.008)	(0.007)	(0.003)	(0.004)	(0.004)	(0.003)
(Quota Years)2	-0.001**	-0.001**	-0.001*	-0.001**	-0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Quota Years	-0.017	-0.008	-0.008	-0.024*	-0.009	-0.006	0.002	-0.008
X Female	(0.010)	(0.010)	(0.012)	(0.011)	(0.006)	(0.006)	(0.007)	(0.007)
(Quota Years)2	0.000	-0.000	-0.000	0.001	0.000	0.000	-0.000	0.000
X Female	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Economic Development	0.003	0.003	0.004	0.003	0.001	0.001	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
GDI	-0.289	-0.341	0.073	-0.385	0.063	0.122	0.401	0.072
	(0.627)	(0.706)	(0.834)	(0.636)	(0.266)	(0.316)	(0.377)	(0.282)
Legislation Authored	0.001*	0.000	0.000	0.001*	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.185	0.225	-0.126	0.273	-0.068	-0.115	-0.337	-0.071
	(0.508)	(0.572)	(0.672)	(0.513)	(0.217)	(0.258)	(0.305)	(0.228)
Random-effects Parameters								
Province	-3.941***	-3.710***	-3.784***	-4.044***	-17.209	-5.254*	-19.383*	-12.010
	(0.756)	(0.615)	(0.678)	(0.994)	(0.000)	(2.446)	(9.005)	(666.690)
Year	-2.997***	-2.985***	-2.951***	-2.959***	-3.815***	-3.659***	-3.782***	-3.760***
	(0.137)	(0.145)	(0.142)	(0.140)	(0.186)	(0.175)	(0.213)	(0.188)
Residual	-1.618***	-1.645***	-1.624***	-1.603***	-2.079***	-2.129***	-2.079***	-2.050***
	(0.015)	(0.017)	(0.017)	(0.016)	(0.015)	(0.017)	(0.019)	(0.016)
Observations	2284	1907	1909	2044	2284	1907	1909	2044
Provinces	12	11	11	11	12	11	11	11
Legislative Sessions	86	81	77	77	86	81	77	77

Figure B 2: Explaining Women's Gender Cosponsorship Score as the Proportion of Women in the Legislature Increases, Small Districts



This figure illustrates that the results shown in Chapter 3 for small districts are robust to multiple model specifications. Specifically, the figure demonstrates that none of the three largest chambers with small districts in the sample are driving the results. In the top left panel it is clear that the sample without the Mendoza House has a more positive trend than the samples including the Mendoza House, however this difference does not emerge in the other graphs that consider only Women's Domain legislation or the figure considering all legislation for women crossing party lines.